

IBM IMS Tools Base for z/OS

IMS Tools Common Services User's Guide and Reference

1.8

SC27-9857-07



Contents

IMS Tools Common Services overview	7
IMS Tools Common Services overview	7
What's new in IMS Tools Common Services	7
IMS Tools Common Services modules	8
Service updates and support information	9
Product documentation and updates	9
Accessibility features	10
IMS Tools Generic Exits reference	11
Guidelines for using IMS Tools Generic Exits	11
Exit control flow	11
IMS Tools Generic Exits activation overview	12
Disabling specific generic exits	12
Migration considerations for IMS Tools Generic Exits	12
Configuring IMS Tools Generic Exits	12
Generic Logger exit overview and usage	13
Generic Logger exit overview	13
Generic Logger exit definitions	14
Global processing parameters	16
Generic Logger exit messages (GLX)	18
Message format	18
Generic Logger exit user abend codes	25
Generic Partner exit overview and usage	27
Generic Partner exit overview	27
Generic Partner exit definitions	28
Global processing parameters	29
Generic Partner exit messages (GPR)	30
Message format	30
Generic Partner exit user abend codes	36
Generic MSC exit overview and usage	38
Generic MSC exit overview	38
Generic MSC exit definitions	40
Global processing parameters	41
Generic MSC exit messages (GEX)	42
Message format	42
Generic MSC exit user abend codes	48
Generic QSN exit overview and usage	50
Generic QSN exit overview	50
Generic QSN exit definitions	51
Global processing parameters	52
Generic QSN exit messages (GEXQ)	53
Message format	53
Generic QSN exit user abend codes	58
IMS Tools Online System Interface	61
IMS Tools Online System Interface overview	61
Guidelines for using IMS Tools Online System Interface	61
Migration considerations for IMS Tools Online System Interface	61
Configuring IMS Tools Online System Interface	62
IMS Tools Online System Interface client API installation verification program (TOSI client API IVP)	62
Running the TOSI client API IVP	62
EXEC and DD statements for the TOSI client API IVP	63
Control statements for the TOSI client API IVP	64
Output from the TOSI client API IVP	65
JCL examples for the TOSI client API IVP	69
IMS Tools Online System Interface messages (FOI)	70
Message format	70
Return and reason codes for client exception processing	71
IMS Tools Online System Interface abend codes	93
IMS Tools Catalog Interface reference	96
IMS Tools Catalog Interface messages (GEX3)	96
Message format	96
IMS Tools Resource Manager Structure utility reference	100
Running the Resource Manager Structure utility	100
EXEC and DD statements for the Resource Manager Structure utility	101
EXEC statement	101

Summary of DD statements	101
DD statements for input	101
DD statements for output	101
Control statements for the Resource Manager Structure utility	102
Format of the control statement	102
Summary of keywords	102
Description of keywords	103
Output from the Resource Manager Structure utility	105
Journal Messages report	105
RM Structure Information report	106
JCL examples for the Resource Manager Structure utility	107
Example 1: Extracting all resources for all resource types handled by this utility	107
Example 2: Extracting the resources that meet the selection criteria specified for each resource type	107
Example 3: Deleting the specified resources	108
Resource Manager Structure utility messages (GEXS)	108
Message format	108
Resource Manager Structure utility return codes	116
IMS Tools Common Pauser reference	117
IMS Tools Common Pauser overview	117
BMP and JBP pause processing flow	117
Configuring IMS Tools Common Pauser	117
IMS Tools Common Pauser messages (FOI01000 - FOI01999)	117
Message format	117
IMS Tools Common Pauser abend codes	133
Tools Base Diagnostics Aid reference	135
Tools Base Diagnostics Aid overview	135
How to run Tools Base Diagnostics Aid with JCL stream	136
Output from the Tools Base Diagnostics Aid	137
Journal Messages report	137
Load Module APAR Status report	137
Tools Base Diagnostics Aid return codes	138
Tools Base Diagnostics Aid messages	138
Message format	138
Notices	145
Trademarks	146
Terms and conditions for product documentation	146
Privacy policy considerations	146
Index	148

Note:

Before using this information and the product it supports, read the information in [“Notices” on page 145](#).

Third Edition

This edition applies to Version 1.8 of IBM® IMS Tools Base for z/OS® (program number 5655-V93) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC27-9857-06.

About this information

IBM® IMS Tools Base for z/OS® IMS Tools Common Services (also referred to as IMS Tools Common Services) is a collection of resources that provide common functionality for use by IMS Tools products.

These topics provide instructions for installing, configuring, and using IMS Tools Common Services.

To use these instructions, you must have already installed IMS Tools Common Services by completing the instructions in the *Program Directory for IBM® IMS Tools Base for z/OS®*, GI10-8819, which is included with the product media and is also available on the IMS Tools Product Documentation page.

These topics are designed to help database administrators, system programmers, application programmers, and system operators perform the following tasks:

- Understand the capabilities of the functions that are associated with IMS Tools Common Services
- Install and operate IMS Tools Common Services
- Customize your IMS Tools Common Services environment
- Diagnose and recover from IMS Tools Common Services problems
- Use IMS Tools Common Services with other IMS products

To use these topics, you should have a working knowledge of:

- The z/OS® operating system
- ISPF
- SMP/E
- IMS

Always refer to the IMS Tools Product Documentation web page for complete product documentation resources:

<https://www.ibm.com/support/pages/node/712955>

The IMS Tools Product Documentation web page includes:

- Links to [IBM® Documentation](#) for the user guides ("HTML")
- PDF versions of the user guides ("PDF")
- Program Directories for IMS Tools products
- Technical articles from IBM® Software Support
- White papers that describe product business scenarios and solutions

IMS Tools Common Services overview

IBM® IMS Tools Base for z/OS® IMS Tools Common Services (also referred to as IMS Tools Common Services) is a collection of resources that provide common functionality for use by IMS Tools products.

The topic in this section provides you with an overview of the IMS Tools Common Services.

Topics:

- [“IMS Tools Common Services overview” on page 7](#)

IMS Tools Common Services overview

IBM® IMS Tools Base for z/OS® IMS Tools Common Services (also referred to as IMS Tools Common Services) is a collection of resources that provide common functionality for use by IMS Tools products.

Topics:

- [“What's new in IMS Tools Common Services” on page 7](#)
- [“IMS Tools Common Services modules” on page 8](#)
- [“Service updates and support information” on page 9](#)
- [“Product documentation and updates” on page 9](#)
- [“Accessibility features” on page 10](#)

What's new in IMS Tools Common Services

This topic summarizes the technical changes for this edition.

New and changed information is denoted by carets (|<) and (>|) at the beginning and end of the new or changed information. Editorial changes that have no technical significance are not noted.

Revision markers follow these general conventions:

- Only technical changes are marked; style and grammatical changes are not marked.
- If part of an element, such as a paragraph, syntax diagram, list item, task step, or figure is changed, the entire element is marked with revision markers, even though only part of the element might have changed.
- If a topic is changed by more than 50%, the entire topic is marked with revision markers (so it might seem to be a new topic, even though it is not).

Revision markers do not necessarily indicate all the changes made to the information because deleted text and graphics cannot be marked with revision markers.

For a complete list of new-function APARs, see [IMS Tools continuous delivery and new functions](#).

|<

SC27-9857-07 - July 2026

Table 1: SC27-9857-07 updates	
Description	Related APARs
IMS Tools Online System Interface (TOSI) enhancement. IMS Tools Online system Interface client API installation verification program (TOSI client API IVP) is added. You can use this program to verify TOSI server operation and to issue TOSI action commands. The TOSI client API IVP supports the following action commands for DEDBs: – REPLDMCB, which replaces the DEDB master control block (DMCB) – REPLRAND, which replaces the randomizer By using these TOSI action commands, you can delete DEDB areas while taking only the target areas offline, without stopping the entire database. The following topics are added: – “IMS Tools Online System Interface client API installation verification program (TOSI client API IVP)” on page 62 – Message FOI800E	PH72004

>|

SC27-9857-06 - June 2026

Table 2: SC27-9857-06 updates	
Description	Related APARs
IMS Tools Resource Manager Structure utility: Added information that the maximum number of GEXSYSIN input control statements per execution is 800. The following topics are updated: – “EXEC and DD statements for the Resource Manager Structure utility” on page 101 – “Control statements for the Resource Manager Structure utility” on page 102	N/A

SC27-9857-05 - March 2026

Table 3: SC27-9857-05 updates	
Description	Related APARs
Refreshed for IMS Tools Base 1.8.	N/A

IMS Tools Common Services modules

IMS Tools Common Services consists of IMS Tools Generic Exits, IMS Tools Online System Interface, IMS Tools Catalog Interface, the IMS Tools Resource Manager Structure utility, IMS Tools Common Pauser, and Tools Base Diagnostics Aid.

IMS Tools Generic Exits

The IMS Tools Generic Exits are a collection of exit routines that provide the ability to call multiple exit routines from a single exit point in an IMS environment.

IMS Tools Online System Interface (TOSI)

IMS Tools Online System Interface is a command interface that allows IMS Tools to interface with all supported versions of IMS.

IMS Tools Catalog Interface

IMS Tools Catalog Interface is a common interface used by IMS Tools products to process the IMS catalog directory.

IMS Tools Resource Manager Structure utility

The IMS Tools Resource Manager Structure utility (also referred to as the Resource Manager Structure utility) is a batch utility that queries or deletes resources in the Resource Manager (RM) structure used by the IMS systems that are running in an IMSplex.

IMS Tools Common Pauser

IMS Tools Common Pauser is a common module that is used by IMS Tools products to enable the BMP and JBP pause feature, which suspends BMPs and JBPs that access the database to which you want to make changes.

Tools Base Diagnostics Aid

The Tools Base Diagnostics Aid generates the Load Module APAR Status report for the IMS Tools maintenance by IBM. This report shows the latest APAR fixes applied to each module of IMS Tools components.

Service updates and support information

Service updates and support information for this product, including software fix packs, PTFs, frequently asked questions (FAQs), technical articles, troubleshooting information, and downloads, are available from the web.

To find service updates and support information, see the following website:

[IBM Support: IMS Tools Base for z/OS](#)

Product documentation and updates

IMS Tools information is available at multiple places on the web. You can receive updates to IMS Tools information automatically by registering with the IBM® My Notifications service.

Information on the web

Always refer to the IMS Tools Product Documentation web page for complete product documentation resources:

<https://www.ibm.com/support/pages/node/712955>

The IMS Tools Product Documentation web page includes:

- Links to [IBM® Documentation](#) for the user guides ("HTML")
- PDF versions of the user guides ("PDF")
- Program Directories for IMS Tools products
- Technical articles from IBM® Software Support
- White papers that describe product business scenarios and solutions

IBM® Redbooks® publications that cover IMS Tools are available from the following web page:

<http://www.redbooks.ibm.com>

The IBM® Information Management System website shows how IT organizations can maximize their investment in IMS databases while staying ahead of today's top data management challenges:

<https://www.ibm.com/software/data/ims>

Receiving documentation updates automatically

To automatically receive emails that notify you when new technical articles are released, when existing product documentation is updated, and when new product documentation is available, you can register with the IBM® My Notifications service. You can customize the service so that you receive information about only those IBM® products that you specify.

To register with the My Notifications service:

1. Go to <http://www.ibm.com/support/mynotifications>
2. Enter your IBM® ID and password, or create one by clicking **register now**.

3. When the My Notifications page is displayed, click **Subscribe** to select those products that you want to receive information updates about. The IMS Tools option is located under **Software > Information Management**.
4. Click **Continue** to specify the types of updates that you want to receive.
5. Click **Submit** to save your profile.

How to send your comments

Your feedback is important in helping us provide the most accurate and highest quality information. If you have any comments about this information, see [How to provide feedback](#) in IBM® Documentation.

When you provide feedback, include as much information as you can about the content you are commenting on, where we can find it, and what your suggestions for improvement might be.

Accessibility features

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use a software product successfully.

The major accessibility features in this product enable users to perform the following activities:

- Use assistive technologies such as screen readers and screen magnifier software. Consult the assistive technology documentation for specific information when using it to access z/OS® interfaces.
- Customize display attributes such as color, contrast, and font size.
- Operate specific or equivalent features by using only the keyboard. Refer to the following publications for information about accessing ISPF interfaces:
 - *z/OS® ISPF User's Guide, Volume 1*
 - *z/OS® TSO/E Primer*
 - *z/OS® TSO/E User's Guide*

These guides describe how to use the ISPF interface, including the use of keyboard shortcuts or function keys (PF keys), include the default settings for the PF keys, and explain how to modify their functions.

IMS Tools Generic Exits reference

The IMS Tools Generic Exits are a collection of exit routines that provide the ability to call multiple exit routines from a single exit point in an IMS environment.

Information about the IMS Tools Generic Exits is provided in the following topics:

Topics:

- [“Guidelines for using IMS Tools Generic Exits” on page 11](#)
- [“Configuring IMS Tools Generic Exits” on page 12](#)
- [“Generic Logger exit overview and usage” on page 13](#)
- [“Generic Logger exit messages \(GLX\)” on page 18](#)
- [“Generic Logger exit user abend codes” on page 25](#)
- [“Generic Partner exit overview and usage” on page 27](#)
- [“Generic Partner exit messages \(GPR\)” on page 30](#)
- [“Generic Partner exit user abend codes” on page 36](#)
- [“Generic MSC exit overview and usage” on page 38](#)
- [“Generic MSC exit messages \(GEX\)” on page 42](#)
- [“Generic MSC exit user abend codes” on page 48](#)
- [“Generic QSN exit overview and usage” on page 50](#)
- [“Generic QSN exit messages \(GEXQ\)” on page 53](#)
- [“Generic QSN exit user abend codes” on page 58](#)

Guidelines for using IMS Tools Generic Exits

The IMS Tools Generic Exits are a collection of exit routines that provide the ability to call multiple exit routines from a single exit point in an IMS environment.

The IMS Tools Generic Exits are delivered in IMS Tools Base and are prerequisites for multiple IMS Tools products. The IMS Tools Generic Exits are shared with multiple IMS Tools products and contain the common code components that are listed in the following table.

Table 4: IMS Tools Generic Exits common code components and their product prefixes	
Component name	Product prefix
Generic Logger exit	GLX
Generic Partner exit	GPR
Generic MSC exit (Generic Transaction Manager and Multiple Systems Coupling Message Routing and Control User exit)	GEX
Generic QSN exit (Generic Queue Space Notification exit)	GEXQ

The exits that are contained in IMS Tools Base supersedes and replaces all previous versions. Any IMS Tools product that uses the generic exits contain a REQ(HAHN110), which signals to SMP/E that this FMID must already be installed, or that its installation is required at the same time the IMS tool product is installed.

Always refer to the appropriate Program Directory for any IMS Tools product to determine the prerequisites for installing and operating the product.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

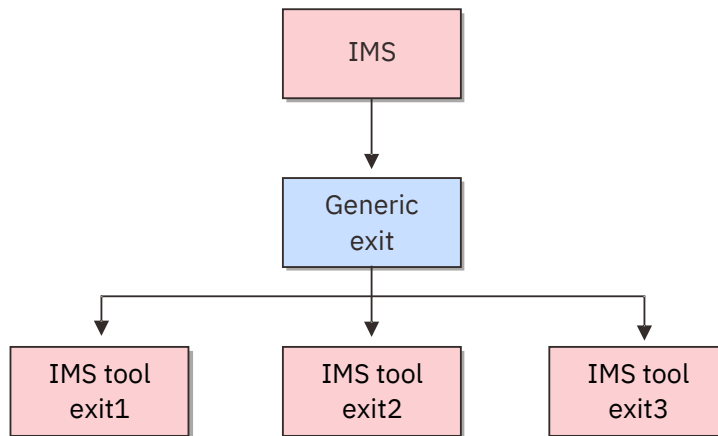


Figure 1: Exit control flow

For example, to configure IMS Tools Online System Interface (TOSI), you must specify FOIPPUE0 in the Generic Partner exit (GPR) PROCLIB member. When the Generic Partner exit is called during the IMS initialization process, the Generic Partner exit calls the FOIPPUE0 exit, and TOSI is initialized.

IMS Tools Generic Exits activation overview

The following steps describe how to enable the IMS Tools Generic Exits:

1. Allocate *smph1q.SGLXLOAD* to IMS control region //STEPLIB.
2. APF-authorize *smph1q.SGLXLOAD*.
3. Configure the Generic Partner exit PROCLIB to point to all DFSPUE0 exits in your IMS environment.
4. Configure the Generic Logger exit PROCLIB to point to all DFSFLGX0 exits in your IMS environment.
5. Configure the Generic MSC exit PROCLIB to point to all DFSMSCE0 exits in your IMS environment.
6. Configure the Generic QSN exit PROCLIB to point to all DFSQSSP0 exits in your IMS environment.
7. Restart IMS.

Disabling specific generic exits

Depending on which IMS Tools products that you use, you might not need to use all of the generic exits in the Tools Generic exits common code. To disable a generic exit, do not configure the required PROCLIB member for that particular generic exit.

During IMS initialization, if a particular PROCLIB member is not found, that generic exit is disabled.

Important: Before you disable a generic exit, ensure that the exit is not being used by another IMS Tools product. If you disable a generic exit that is being used by another IMS Tools product, that tool will not be able to operate.

Migration considerations for IMS Tools Generic Exits

If you are using IMS Tools Generic Exits in an environment containing multiple IMS Tools products at mixed version and release levels, you must always install and run the highest level of IMS Tools Generic Exits that is available.

The latest version of the IMS Tools Generic Exits is fully compatible with prior releases of IMS Tools products and common code.

Configuring IMS Tools Generic Exits

You must configure IMS Tools Generic Exits.

Information about configuring the exit routines in IMS Tools Generic Exits and other IMS Tools Base components is provided in the [IMS Tools Base Configuration Guide](#).

You can also download a PDF version of this information from the [IMS Tools Product Documentation](#) page.

Generic Logger exit overview and usage

The IMS Tools Generic Logger exit (also referred to as the Generic Logger exit with product prefix GLX) enables multiple copies of the IMS logger exit routine (DFSFLGX0) to exist and to be driven within a single IMS environment. The Generic Logger exit drives other logger exit routines.

Topics:

- [“Generic Logger exit overview” on page 13](#)
- [“Generic Logger exit definitions” on page 14](#)
- [“Global processing parameters” on page 16](#)

Generic Logger exit overview

The Generic Logger exit (product prefix GLX) enables multiple copies of the IMS logger exit routine (DFSFLGX0) to exist and to be driven within a single IMS environment. The Generic Logger exit drives other logger exit routines.

The Generic Logger exit can be used with several IMS Tools products to perform product initialization and log record processing. You can also have your own logger exit routine.

When you install the Generic Logger exit, you can use multiple logger exit routines that are named DFSFLGX0 for an online environment. For a batch environment, you must use unique logger exit routine names, and the name cannot be DFSFLGX0.

The Generic Logger exit has its own runtime libraries and installation process. It calls other logger exit routines during initialization, buffer write, and termination processing so that each function can perform specific processing.

The Generic Logger exit is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool that you are using.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

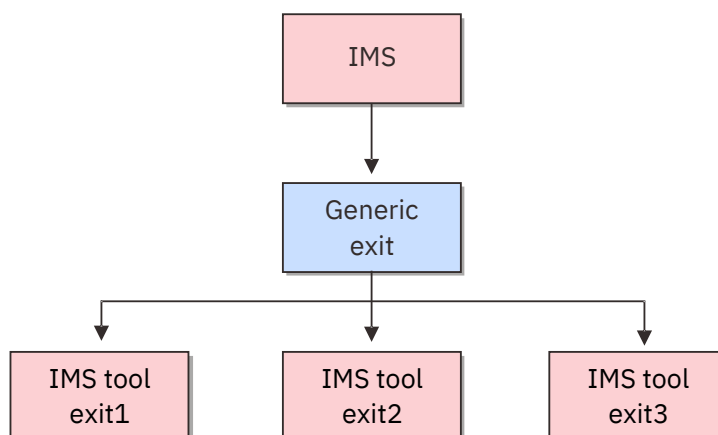


Figure 2: Exit control flow

For example, to configure IMS Sysplex Manager, you must specify GJEFLGX0 in the Generic Logger exit (GLX) PROCLIB member. When GJEFLGX0 is added to the GLX PROCLIB member, the Generic Logger exit calls GJEFLGX0 after the IMS initialization process calls the Generic Logger exit.

Coexistence with other logger exits

The Generic Logger exit drives all other logger exits under each IMS control region. In the //STEPLIB concatenation, placing the Generic exit routine DFSFLGX0 (alias GLXILGX0) as the first copy of the DFSFLGX0 is recommended.

If the Generic Logger exit cannot be at the beginning in the //STEPLIB concatenation because of another exit that must be first, the Generic Logger exit can be placed anywhere in the //STEPLIB under the following condition:

- The DFSFLGX0 that is before the Generic Logger exit must pass control to the Generic Logger exit. The Generic Logger exit can then call the remaining logger exits that have been defined in the exit list.

Important: Ensure that you do not include the DFSFLGX0 in front of the Generic Logger exit in the exit list. Otherwise, a recursive call occurs, which causes a loop.

An exit can determine if it was called by the Generic Logger exit by checking for a literal, as shown in the following code. The literal is pointed by the register 14 + x'4'.

```
          BALR   R14,R15          CALL USER EXIT
          B      PASTID           SKIP ID
          DC     CL16 'GENERIC EXITS' EYECATCHER
PASTID    DS     0H
```

Generic Logger exit activation

To activate this exit, set up the required member that is described in [“Generic Logger exit definitions” on page 14](#).

If you do not need this exit, do not configure it.

If no exit definitions are found, one of the following conditions occurs:

- If the Generic Logger exit is NOT first in //STEPLIB, the exit returns to its caller without passing control to the next DFSFLGX0 in the //STEPLIB stack.
 - If the Generic Logger exit is first in //STEPLIB, the exit transfers control to the next DFSFLGX0 in the //STEPLIB stack and then removes itself from the IMS control region. The Generic Logger exit is not called by IMS again.
- In both of the previous conditions, the Generic Logger exit is disabled.

Important: Before you disable a generic exit, ensure that the exit is not being used by another IMS Tools product. If you disable a generic exit that is being used by another IMS Tools product, that tool will not be able to operate.

Generic Logger exit definitions

The Generic Logger exit requires you to define a set of logger exit routines. If these definitions are not set, the Generic Logger exit issues an error message and continues processing based on the setting of the INITFAIL parameter. No logger exit routine can be invoked unless a set of logger exit routines have been defined.

Generic Logger exit supports the following two formats for the logger exit routine list:

- A PROCLIB member that contains BPE-style control card input. This format is recommended in online environments.
- A load module format that you create by assembling and link editing definition macros. This format is recommended in batch environments so that existing JCL does not require changes.

By supporting both formats, the Generic Logger exit provides the maximum flexibility in both the batch and online environments. In addition, two naming patterns for the definitions are supported so that you can use both IMS-specific definitions and global definitions for cloned IMS environments:

- For global definitions that are not specific to any IMS system, the name is GLXEXIT0.
- For IMS-specific definitions, the name follows the pattern: GLXxxxx0, where xxxxx is the IMS ID.

Both the PROCLIB member and load library member names use the same pattern.

When Generic Logger exit initializes, the following search order is used to locate the exit routine definitions:

1. PROCLIB member GLXxxxx0
2. Load module member GLXxxxx0
3. PROCLIB member GLXEXIT0
4. Load module member GLXEXIT0

The first member that is located is used for the exit routine definitions. No other members are processed.

If no exit routine definition member is found or if the member is found but contains no definitions, the Generic Logger exit issues messages and continues processing based on the setting of the INITFAIL parameter.

PROCLIB member definitions

If you choose to define logger exit routines by using a PROCLIB member, each exit routine must be defined by using a BPE-format control card.

The order of the statements in the member determines the order in which the exit routines are called. This member can be in any data set within the //PROCLIB DD concatenation in the IMS control region JCL.

The following example shows the format of the control card:

```
EXITDEF(TYPE(LOGR) EXITNAME(exit-name) LOADLIB(load-library))
```

The following rules apply to the control card:

- Each exit routine that is to be called must be specified in a separate EXITDEF() statement.
- The TYPE() keyword must be LOGR for this feature.
- The name of the exit routine is specified with the EXITNAME() keyword and must match a member name in the specified load library.
- The load library in which the exit routine resides is specified with the LOADLIB() keyword and must specify a cataloged load library that is APF-authorized and to which the IMS control region has access.

The Generic Logger exit tests the load library to ensure that it is APF-authorized. If the load library is not APF-authorized, the exit routine is not called, and error messages are issued. Processing continues based on the global statement specification.

The following sample shows a Generic Logger exit definition member for an IMS control region that includes IMS Sysplex Manager and a customized logger exit routine:

```
EXITDEF(TYPE(LOGR) EXITNAME(GJEIINT0) LOADLIB(IMSSM.LOADLIB))  
EXITDEF(TYPE(LOGR) EXITNAME(DFSFLGX0) LOADLIB(USER.LOADLIB))
```

When the Generic Logger exit initializes, it loads each exit routine and calls it for initialization, in the order that is specified in the member. During normal processing, the Generic Logger exit calls each exit routine, in order, for buffer write processing. During termination, the Generic Logger exit calls each exit routine, in order, for termination processing.

LOAD module definitions

If you use the load module method for defining exit routine definitions, you can create an input member by using the GLXIEXIT macro.

You then assemble and link edit the member, and place it in a load library that can be found in the //JOB LIB or //STEPLIB concatenation. The order of the statements in this member determines the order in which the exit routines are called.

The following example shows the format of the macro definition:

```
label      GLXIEXIT FUNC=BEGIN, IMSID=iii  
           GLXIEXIT FUNC=DEFINE, TYPE=LOGR,  
             EXITNAME=exit-name, LOADLIB=load-library  
           GLXIEXIT FUNC=END
```

The following rules apply to the macro definition:

- The load module must be linked as a non-reentrant module.
- If the load module is GLXEXIT0 (non-IMS specific, global exit definitions), the IMSID= keyword must be omitted.
- Each exit routine that is to be called must be specified in a separate GLXIEXIT statement.
- The TYPE= keyword must be LOGR for this feature.
- The name of the exit routine is specified with the EXITNAME= keyword and must match a member name in the specified load library.
- The load library in which the exit routine resides is specified with the LOADLIB= keyword and must specify a cataloged load library that is APF-authorized and to which the IMS control region has access.

The following sample shows a Generic Logger exit global definition load module GLXEXIT0 for a cloned IMS environment that includes IMS Sysplex Manager and a customized logger exit routine:

```
EXIT1    GLXIEXIT  FUNC=BEGIN
          GLXIEXIT  FUNC=DEFINE,TYPE=LOGR,EXITNAME=GJEINT0,
          LOADLIB=IMSSM.LOADLIB
EXIT2    GLXIEXIT  FUNC=DEFINE,TYPE=LOGR,EXITNAME=DFSFLGX0,
          LOADLIB=USER.LOADLIB
          GLXIEXIT  FUNC=END
```

The following sample shows a Generic Logger exit IMS-specific exit definition load module GLXIMS10 for an IMS control region with an IMSID of IMS1 that includes IMS Sysplex Manager, a vendor-supplied logger exit routine, and a customized logger exit routine:

```
EXIT1    GLXIEXIT  FUNC=BEGIN, IMSID=IMS1
          GLXIEXIT  FUNC=DEFINE,TYPE=LOGR,EXITNAME=GJEINT0,LOADLIB=IMSSM.LOADLIB
EXIT2    GLXIEXIT  FUNC=DEFINE,TYPE=LOGR,EXITNAME=DFSFLGX0,LOADLIB=VENDOR.LOADLIB
EXIT3    GLXIEXIT  FUNC=DEFINE,TYPE=LOGR,EXITNAME=DFSFLGX0,LOADLIB=USER.LOADLIB
          GLXIEXIT  FUNC=END
```

When the Generic Logger exit initializes, it loads each exit routine and calls it for initialization, in the order that is specified in the member. During normal processing, the Generic Logger exit calls each exit routine, in order, for buffer write processing. During termination, the Generic Logger exit calls each exit routine, in order, for termination processing.

Global processing parameters

In addition to defining the logger exit routines, you can optionally use global processing parameters to control the Generic Logger exit processing in error situations. You specify these parameters in the PROCLIB member or in the load module named GLXOPT0.

Three situations can occur in which you can drive the Generic Logger exit processing:

- When the Generic Logger exit is initializing and setup errors are detected, such as a missing exit routine definition member, control card errors, or when no exit routines are defined
- When processing an exit routine definition during initialization and the exit routine cannot be located or loaded, or the load library is not APF-authorized
- During invocation of an exit routine, an error occurs in the exit routine that causes an abend

In any of these cases, you can use a global parameter to make the Generic Logger exit generate an abend for the job or perform recovery processing and continue.

The following search order is used to locate the global options:

1. PROCLIB member GLXOPT0
2. Load module member GLXOPT0

If no global options definition member is found, or the member is found and contains no definitions or contains invalid definitions, the IMS Generic Logger exit routine issues warning messages, sets the options to default values, and continues processing.

The following example shows the format of the global parameter when it is specified in the PROCLIB member:


```
GLOBAL (INITFAIL (ABEND | WARNING)
        EXITINIT (ABEND | TERMEXIT)
        EXITPROC (ABEND | TERMEXIT))
```

The following example shows the format of the global parameter when it is specified in the load module:

```
GLXIGLBL INITFAIL=ABEND | WARNING,
        EXITINIT=ABEND | TERMEXIT,
        EXITPROC=ABEND | TERMEXIT
```

INITFAIL parameter

The INITFAIL parameter drives processing when an error occurs while attempting to initialize the Generic Logger exit.

The following errors can occur:

- The Generic Logger exit copy of DFSFLGX0 was not the first copy of DFSFLGX0 invoked.
- No exit definitions were found.
- Errors were detected in the exit definitions.

You can set the INITFAIL parameter to either of the following settings:

INITFAIL=ABEND

This setting causes the Generic Logger exit to issue an error message and return to IMS with RC=12.

INITFAIL=WARNING

This setting causes the Generic Logger exit to issue warning messages and return control to IMS with RC=0 to allow it to continue processing. In this case, no logger exit routines are invoked during IMS processing. INITFAIL=WARNING is the default setting.

EXITINIT parameter

The EXITINIT parameter drives processing when an error occurs while attempting to locate or load the exit routine during the Generic Logger exit initialization or if the load library is not APF-authorized.

You can set the EXITINIT parameter to either of the following settings:

EXITINIT=ABEND

This setting causes the Generic Logger exit to issue an error message and return to IMS with RC=12.

EXITINIT=TERMEXIT

This setting causes the Generic Logger exit to issue an error message for the exit routine, set the exit routine to inactive, and continue processing. No further action is taken for inactive exit routines. EXITINIT=TERMEXIT is the default setting.

EXITPROC parameter

The EXITPROC parameter drives the processing when an error occurs within the exit routine while it is processing.

You can set the EXITPROC parameter to either of the following settings:

EXITPROC=ABEND

This setting causes Generic Logger exit to issue an error message and return to IMS with RC=12.

EXITPROC=TERMEXIT

This setting causes the Generic Logger exit to issue an error message for the exit routine, set the exit routine to inactive, and continue processing. No further action is taken for inactive exit routines. EXITPROC=TERMEXIT is the default setting.

Generic Logger exit messages (GLX)

The IMS Tools Generic Logger exit (GLX) issues messages that can help you understand the state of the exit and help you resolve errors.

Message format

IMS Tools Generic Logger exit (GLX) messages adhere to the following format:

```
GLXnnnnx
```

where:

GLX

Indicates that the message was issued by IMS Tools Generic Logger exit (GLX)

nnnn

Indicates the message identification number

x

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

GLX2901E: UNABLE TO LOCATE IMS SSCD

Explanation

During initialization processing, the Generic Logger exit routine was unable to locate the IMS SSCD control block.

System action

The IMS control region stops abnormally.

User response

Review the IMS control region job log for other messages that are associated with the abend. Retain any diagnostic information and contact IBM® Software Support.

GLX2902E: IMS RELEASE NOT SUPPORTED

Explanation

During Generic Logger exit routine initialization processing, it was determined that the IMS release that is associated with the IMS control region is not supported by the Generic Logger exit routine.

System action

The IMS control region stops abnormally.

User response

Review the Generic Logger exit routine documentation for a list of supported IMS releases.

GLX2903E: LOAD FAILED FOR GLX MODULE *name*

Explanation

The Generic Logger exit routine cannot locate the module that is specified in *name*.

System action

The IMS control region stops abnormally.

User response

Ensure that the Generic Logger exit routine has been correctly installed in the //JOB LIB or //STEPLIB.

GLX2904E: BATCH ENVIRONMENT EXPECTED BUT NOT PRESENT

Explanation

The Generic Logger exit routine has determined that it should be running in a batch environment, but a batch environment is not present. This is an internal processing error.

System action

The IMS control region stops abnormally.

User response

Retain any diagnostic information and contact IBM® Software Support.

GLX2905E: GENERIC LOGGER EXIT INITIALIZATION FAILED

Explanation

The Generic Logger exit routine has failed to initialize.

System action

Processing continues, based on the INITFAIL keyword setting.

User response

Review the IMS control region job log for other messages that are associated with the error.

GLX2906E: INVALID CALL TYPE FOR DFSFLGX0

Explanation

The Generic Logger exit routine has detected an invalid call to the initialization routine (GLXIINTX). This is an internal processing error.

System action

The IMS control region stops abnormally.

User response

Ensure that the Generic Logger exit routine has been installed correctly in the //JOB LIB or //STEPLIB. Retain any diagnostic information and contact IBM® Software Support.

GLX2907E: DUPLICATE INITIALIZATION CALL FOR DFSFLGX0

Explanation

The Generic Logger exit routine has detected a duplicate initialization call to the initialization routine (GLXIINTX). This is an internal processing error.

System action

The IMS control region stops abnormally.

User response

Ensure that the Generic Logger exit routine has been correctly installed in the //JOB LIB or //STEPLIB.

GLX2908E: MVS NAME TOKEN SERVICE FAILED FOR *name*, RC=*nnnn*, RSN=*nnnn*

Explanation

During the initialization process, the Generic Logger exit routine issued a request to obtain a name token from z/OS®, but the request failed with the return code and reason code that are included in the error message.

System action

Processing continues, based on the INITFAIL keyword setting.

User response

Retain any diagnostic information and contact IBM® Software Support.

GLX2909E: ERROR action PROCLIB MEMBER *member*, REASON=*reason*

Explanation

An error occurred while processing the Generic Logger exit routine PROCLIB member *member* that was specified. The action taken might be READING or PARSING. The possible reasons for the error are:

- NOSTG (no storage available to perform read)
- OPENFAIL (open failed for IMS PROCLIB data set)
- NOTFIXED (IMS PROCLIB data set format is not FIXED)
- READFAIL (read failed for IMS PROCLIB data set)
- NOTFOUND (specified PROCLIB member cannot be found)

Invalid input data is detected by the parsing module and is assigned to the following reason codes:

X'40'

An invalid keyword was detected in the input data.

X'44'

An unknown positional parameter was encountered in the input.

X'48'

A keyword parameter was specified with an equal sign (KEYWORD=), but the keyword was defined as having a sublist of values. Sublists can be specified only in parentheses and an equal sign can be used only if a keyword has a single value.

X'4C'

The input ended before the entire sublist or keyword was parsed.

X'50'

A keyword was encountered (KEYWORD or KEYWORD=), but a value was expected.

X'54'

An input number that was being parsed was out of the range that is allowed for its output field length. For decimal numbers, the numbers must be less than or equal to 255 for 1-byte fields, 65535 for 2-byte fields,

16777215 for 3-byte fields, and 2147483647 for 4-byte fields. For hex numbers, the number cannot have digits that are more than two times the number of bytes in the output field.

X'58'

A parameter value that is defined as decimal contains non-decimal digits.

X'5C'

A parameter value that is defined as hex contains non-hex digits.

X'60'

A parameter value that is defined as a key value parameter has an unknown key value.

X'64'

A keyword parameter is present multiple times, but it is not defined as being repeatable.

X'68'

A parameter that is defined with REQUIRED=YES was not found in the input data.

X'6C'

A character parameter value is longer than the defined output field length, and truncation is not allowed.

System action

Processing continues, based on the INITFAIL keyword setting.

User response

Review the Generic Logger exit routine installation information to ensure that the PROCLIB member *member* has been specified correctly.

GLX2910E: LOGGER EXIT *name* INITIALIZATION FAILED.

Explanation

An error occurred during the initialization of the logger exit routine *name*.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Review other messages that are associated with this error. If the problem persists, contact the provider of the logger exit routine for support.

GLX2911W: MISSING OR INVALID EXIT

Explanation

During initialization, the Generic Logger exit routine found no logger exit routine that was defined, or one was defined incorrectly.

System action

Processing continues based on the INITFAIL keyword setting.

User response

If no exit routines were defined (the PROCLIB member is empty), define the logger exit routines by using a PROCLIB member or a load module. If the exit definition is invalid, see the Generic Logger exit routine setup and usage information, and then redefine the exit routine.

If you want to disable the Generic Logger exit, remove the empty PROCLIB member. When an exit is not configured, it is disabled.

GLX2912E: DUPLICATE EXIT DEFINITION

Explanation

The Generic Logger exit routine has found duplicate logger exit routine definitions in a PROCLIB member or load module.

System action

Processing continues based on the INITFAIL keyword setting.

User response

Check the PROCLIB member or load module and delete the duplicate logger exit routine definition.

GLX2913E: ERROR LOADING EXIT DEFINITION MODULE *name***Explanation**

An error occurred when the Generic Logger exit routine attempted to load the exit definition module.

System action

The IMS control region stops abnormally.

User response

Ensure that the exit definition module exists in the //STEPLIB or //JOB LIB concatenation.

GLX2913W: NO EXIT DEFINITION FOUND**Explanation**

No logger exit definition was found by Generic Logger exit.

System action

Generic Logger exit will unregister itself from IMS and search for next logger exit in //STEPLIB or //JOB LIB. If one is found, control is passed to it.

User response

Make sure that you do not have more than one Logger exit in your IMS environment. If you have more than one Logger exit, you must adjust your configuration to have Generic Logger exit drive all existing Logger exits.

GLX2915E: ERROR LOADING EXIT *name* FROM LOADLIB=*name***Explanation**

An error occurred when the Generic Logger exit routine attempted to load the exit routine from the load library name. The exit routine might not exist in the library, or the library is not APF-authorized.

System action

Processing continues, based on the EXITINIT keyword setting.

User response

Ensure that the exit routine exists and that the load library is APF-authorized.

GLX2917W: KEYWORD=*name* IS NOT VALID. DEFAULT VALUE WILL BE USED**Explanation**

The Generic Logger exit routine found that an invalid value was specified for the keyword.

System action

Processing continues. The default value is set for the keyword.

User response

Correct the error and resubmit the job.

GLX2918E: DYNAMIC ALLOCATION FAILED FOR *name* RC=nnnn, RSN=nnnn, INFO=nnnn

Explanation

The Generic Logger exit routine failed to dynamically allocate the load library. The dynamic allocation return code RC=nnnn and reason code RSN=nnnn are included in the message.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Check the SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM® Software Support.

GLX2919E: DYNAMIC DEALLOCATION FAILED FOR *name* RC=nnnn, RSN=nnnn, INFO=nnnn

Explanation

The Generic Logger exit routine failed to dynamically deallocate the load library. The dynamic allocation return code RC=nnnn and reason code RSN=nnnn are included in the message.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Check the SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM® Software Support.

GLX2920E: *name* IS NOT APF-AUTHORIZED. INIT FOR EXIT *name* FAILED.

Explanation

The load library *name* is not APF-authorized. Initialization for the logger exit routine *name* failed.

System action

Processing continues based on the EXITINIT keyword setting

User response

Ensure the load library is APF-authorized and resubmit the job.

GLX2921E: GLX DRIVER GLXILGXX NOT FOUND

Explanation

The Generic Logger exit routine driver routine GLXILGXX was not found.

System action

The IMS control region stops abnormally.

User response

Ensure that the Generic Logger exit routine has been correctly installed in the //JOB LIB or //STEPLIB.

GLX2923E: IMS GENERIC LOGGER ESTAE CREATE FAILED, RC=####

Explanation

The Generic Logger exit routine failed to create its ESTAE recovery environment.

System action

The IMS control region stops abnormally.

User response

Retain any diagnostic information and contact IBM® Software Support.

GLX2924I: GLXILGX0 NOT LOADED BY IMS**Explanation**

The Generic Logger exit routine DFSFLGX0 was not the first logger exit routine found in the IMS execution library concatenation.

System action

Processing continues, based on the INITFAIL keyword setting.

User response

Ensure that the Generic Logger exit routine DFSFLGX0 is the first logger exit routine in the //STEPLIB or //JOB LIB of the IMS control region JCL.

GLX2925E: ERROR OPENING LOAD LIB *name***Explanation**

An error occurred when the Generic Logger exit routine attempted to open load library *name*.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Retain any diagnostic information and contact IBM® Software Support.

GLX2926I: Informational Messages**Explanation**

These messages include several types of informational messages that display and describe the Generic Logger exit routine processing.

System action

The IMS control region continues normally.

User response

None. This message is informational.

GLX2927E: ERROR GETTING ITASK ECB FOR ESTAE ROUTINE**Explanation**

The Generic Logger exit routine failed to obtain the ECB under which it is running. This is an internal processing error.

System action

The IMS control region stops abnormally.

User response

Retain any diagnostic information and contact IBM® Software Support.

GLX2928E: IMS GENERIC LOGGER EXIT TERMINATED DUE TO ERROR**Explanation**

An Generic Logger exit routine component has terminated due to an error.

System action

The Generic Logger exit routine is disabled. IMS logger exit routines are no longer driven.

User response

Review the IMS control region job log for other messages that are associated with this error. If the problem persists, retain any diagnostic information and contact IBM® Software Support.

GLX2930E: EXIT *name* TERMINATED DUE TO ERROR

Explanation

The logger exit routine *name* has been terminated due to an error.

System action

The Generic Logger exit routine can no longer drive the *name* logger exit routine.

User response

Review other messages that are associated with this error and correct the logger exit routine, if possible. If the problem persists, contact the provider of the logger exit routine for support.

GLX2931E: EXIT *name* NAME NOT UNIQUE

Explanation

This error occurs in a batch environment when the Generic Logger exit routine determines that logger exit routine *name* is not unique and cannot be successfully loaded.

System action

The Generic Logger exit routine processes this error according to the setting of the EXITINIT keyword.

User response

Ensure that all logger exit routines are uniquely named for the batch environment and resubmit the job.

Generic Logger exit user abend codes

The IMS Tools Generic Logger exit (GLX) issues user abend codes that can help you with troubleshooting.

Generic Logger exit uses only one abend code: 3333.

For each abend code, the following information is provided where applicable:

Explanation:

The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

System action:

The System action section explains what the system will do next.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

3333:

Explanation

An error occurred while the Generic Logger exit routine was being processed. Additional error messages are issued that indicate the cause of the error. The following abend subcodes provide more information about the error:

X'65'

LOCATE SCD FAILED

X'66'

IMS RELEASE NOT SUPPORTED

X'67'

LOAD GLXIINTX FAILED

X'68'
INVALID ENVIRONMENT

X'69'
GLXILGXX NOT LOADED

X'C9'
LOAD GLXIIIO FAILED

X'CA'
LOAD GLXICKX FAILED

X'CB'
LOAD GLXILGXX FAILED

X'CC'
GLXILGX0 NOT LOADED BY IMS

X'CD'
DUPLICATE INIT CALL

X'CE'
INVALID CALL

X'CF'
MVS™ NAME TOKEN SERVICES FAILED

X'D0'
ERROR READING PROCLIB MEMBER

X'D1'
ERROR PARSING PROCLIB MEMBER

X'D2'
CREATE ESTAE FAILED

X'D3'
LOAD GLXIESTX FAILED

X'D4'
NO EXIT DEFINITIONS

X'D5'
DUPLICATE EXIT DEFINITIONS

X'D6'
LOAD GLXILODX FAILED

X'D7'
GET ITASK ECB FAILED

X'12D'
ALLOCATE LOADLIB FAILED

X'12E'
LOAD EXIT FAILED

X'12F'
OPEN LOADLIB FAILED

X'130'
LOADLIB NOT APF-AUTHORIZED

X'191'

GET ITASK ECB FAILED

System action

Processing is dependent on the settings of the Generic Logger exit routine global processing options.

User response

Review the IMS control region job log for error messages that are associated with the problem. Correct the error if possible. If the problem persists, retain any diagnostic information and contact IBM® Software Support.

Generic Partner exit overview and usage

The IMS Tools Generic Partner exit (also referred to as the Generic Partner exit with product prefix GPR) enables multiple copies of the IMS Partner exit, normally named DFSPUE0 to exist and to be driven within a single IMS environment. The Generic Partner exit drives other Partner exits during IMS initialization so that each can perform its product initialization.

Topics:

- [“Generic Partner exit overview” on page 27](#)
- [“Generic Partner exit definitions” on page 28](#)
- [“Global processing parameters” on page 29](#)

Generic Partner exit overview

The Generic Partner exit (product prefix GPR) enables multiple copies of the IMS Partner exit, normally named DFSPUE0 to exist and to be driven within a single IMS environment.

The Generic Partner exit drives other partner exits during IMS initialization so that each can perform its product initialization. This feature is necessary because some products (for example, IMS Queue Control Facility and IMS Tools Online Interface) use the partner exit to perform product initialization. You can also have your own partner exit routine.

The Generic Partner exit is a piece of common code is part of IMS Tools Generic Exits, which has its own execution libraries and install process.

The Generic Partner exit is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool that you are using.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

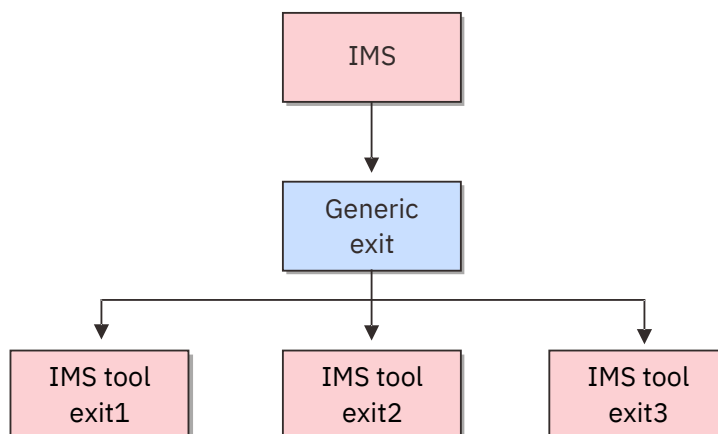


Figure 3: Exit control flow

For example, to configure IMS Tools Online System Interface (TOSI), you must specify FOIPPUE0 in the Generic Partner exit (GPR) PROCLIB member. When the Generic Partner exit is called during the IMS initialization process, the Generic Partner exit calls the FOIPPUE0 exit, and TOSI is initialized

Coexistence with other partner exits

The Generic Partner exit drives all other partner exits under each IMS control region. In the //STEPLIB concatenation, placing the Generic Partner routine DFSPPE0 (alias GPRIPUE0) as the first copy of the DFSPPE0 is recommended.

If the Generic Partner exit cannot be at the beginning in the //STEPLIB concatenation because of another exit that must be first, the Generic Partner exit can be placed anywhere in the //STEPLIB under the following condition:

- The DFSPPE0 that is before the Generic Partner exit must pass control to the Generic Partner exit. The Generic Partner exit can then call the remaining partner exits that have been defined in the exit list.

Important: Ensure that you do not include the DFSPPE0 in front of the Generic Partner exit in the exit list. Otherwise, a recursive call occurs, which causes a loop.

An exit can determine if it was called by the Generic Partner exit by checking for a literal, as shown in the following code. The literal is pointed by the register 14 + x'4'.

	BALR	R14,R15	CALL	USER	EXIT
	B	PASTID	SKIP	ID	
PASTID	DC	CL16 'GENERIC EXITS'	EYECATCHER		
	DS	0H			

Generic Partner exit activation

To activate this exit, set up the required member that is described in [“Generic Partner exit definitions” on page 28](#).

If you do not need this exit, do not configure it.

If no exit definitions are found, one of the following conditions occurs:

- If the Generic Partner exit is NOT first in //STEPLIB, the exit returns to its caller without passing control to the next DFSPPE0 in the //STEPLIB stack.
 - If the Generic Partner exit is first in //STEPLIB, the exit transfers control to the next DFSPPE0 in the //STEPLIB stack and then removes itself from the IMS control region. The Generic Partner exit is not called by IMS again.
- In both of the previous conditions, the Generic Partner exit is disabled.

Important: Before you disable a generic exit, ensure that the exit is not being used by another IMS Tools product. If you disable a generic exit that is being used by another IMS Tools product, that tool will not be able to operate.

Generic Partner exit definitions

The Generic Partner exit requires you to define a set of partner exits. If these definitions are not set, the Generic Partner exit issues an error message and continues processing based on the setting of the INITFAIL parameter. No partner exit can be invoked unless a set of partner exit routines have been defined.

The Generic Partner exit supports a BPE-style PROCLIB member for the partner exit list.

The following two naming patterns for the partner exit definitions are supported to provide you the ability to have both IMS specific definitions and global definitions, if you need them.

For IMS specific definitions, the name must follow the pattern of GPR*iiii*0, where *iiii* is the 4-character, alphanumeric IMS ID. For global definitions that are not specific to any particular IMS, the name will be GPREFIXIT0. When the Generic Partner exit initializes, the search order it follows to locate the definitions is the order that is presented in the following list:

1. PROCLIB member GPR*iiii*0

2. PROCLIB member GPREXITO

The first member that is located is used for exit definitions and no other members are processed. If no exit definition member is found or if a member is found but it contains no definitions, the Generic Partner exit issues messages and continues processing based on the setting of the INITFAIL parameter.

PROCLIB member definitions

Define your Partner exits through a PROCLIB member. Each exit must be defined using the following BPE-format control card. The order of the statements in the member determines the order in which the exits are called. This member can be in any data set within your PROCLIB DD concatenation in the JCL.

The following examples shows the format of the control card:

```
EXITDEF (TYPE (PARTNER) EXITNAME(exit-name) LOADLIB(load-library))
```

The following rules apply to the control card:

- You must specify each exit that is to be called in a separate EXITDEF() statement.
- You must set the TYPE() keyword PARTNER for this feature.
- You must specify the name of the exit with the EXITNAME() keyword and it must match a member name in the specified load library.
- You must specify the load library in which the exit resides with the LOADLIB() keyword and LOADLIB() must specify a cataloged load library which is APF authorized, and to which the IMS control region has access.

The Generic Partner exit tests the load library to ensure that it is APF authorized. If the load library is not APF authorized, the exit is not called, and error messages are issued. Processing continues based on your global statement specification.

The following sample shows a Generic Partner exit definition member for an IMS control region that includes IMS Queue Control Facility, IMS Tools Online Interface, and a customer Partner exit routine:

```
EXITDEF (TYPE (PARTNER) EXITNAME(IQCPPUE0) LOADLIB(qcf.LOADLIB))  
EXITDEF (TYPE (PARTNER) EXITNAME(FOIPPUE1) LOADLIB(toi.LOADLIB))  
EXITDEF (TYPE (PARTNER) EXITNAME(DFSPUE0) LOADLIB(user.LOADLIB))
```

When the Generic Partner exit initializes, it loads each exit and calls it for initialization in the order that is specified in the definition member.

Global processing parameters

In addition to defining the actual Partner exits, there are global parameters that you can use to control Generic Partner exit processing in error situations. You specify these parameters in the PROCLIB member named GPROPT0.

Three situations can occur in which you can drive the Generic Partner exit processing:

- When the Generic Partner exit is initializing and setup errors are detected, such as a missing exit definition member, control card errors, or no exits are defined
- When processing an exit routine definition during initialization and the exit routine cannot be located or loaded, or the load library is not APF-authorized
- During invocation of an exit, an error occurs in the exit routine that causes an abend

In any of these cases, you can use a global parameter to cause the Generic Partner exit to generate an abend for the job or perform recovery processing and continue.

The following example shows the format of the global parameter when it is specified in the PROCLIB member:

```
GLOBAL (INITFAIL (ABEND | WARNING)  
        EXITINIT (ABEND | TERMEXIT)  
        EXITPROC (ABEND | TERMEXIT))
```

INITFAIL parameter

The INITFAIL parameter drives processing when an error is encountered while attempting to initialize the Generic Partner exit.

The following errors can occur:

- The Generic Partner exit copy of DFSPUE0 was not the first copy of DFSPUE0 that was invoked.
- No exit definitions were found.
- Errors were detected in the exit definitions.

You can set the INITFAIL parameter to either of the following settings:

INITFAIL=ABEND

This setting causes the Generic Partner exit to issue an error message and return to IMS with RC=12.

INITFAIL=WARNING

This setting causes the Generic Partner exit to issue warning messages and return to IMS with an RC=0 that allows the Generic Partner exit to continue processing. In this case, no Partner exits are invoked during IMS processing.

INITFAIL=WARNING is the default setting.

EXITINIT parameter

The EXITINIT parameter drives processing when an error occurs while attempting to locate or load the exit routine during Generic Partner exit initialization or if the load library is not APF authorized.

You can set the EXITINIT parameter to either of the following settings:

EXITINIT=ABEND

This setting causes the Generic Partner exit to issue an error message and return to IMS with RC=12.

EXITINIT=TERMEXIT

This setting causes the Generic Partner exit to issue an error message for the exit, and then continue processing the remaining exits.

EXITINIT=TERMEXIT is the default setting.

EXITPROC parameter

The EXITPROC parameter drives the processing when an error occurs within the exit while it is processing.

You can set the EXITPROC parameter to either of the following settings:

EXITPROC=ABEND

This setting causes the Generic Partner exit to issue an error message and return to IMS with RC=12.

EXITPROC=TERMEXIT

This setting causes the Generic Partner exit to issue an error message for the exit, and then continue calling the remaining exits.

EXITPROC=TERMEXIT is the default setting.

Generic Partner exit messages (GPR)

The IMS Tools Generic Partner exit (GPR) issues messages that can help you understand the state of the exit and help you resolve errors.

Message format

IMS Tools Generic Partner exit (GPR) messages adhere to the following format:

```
GPRnnnnx
```

where:

GPR

Indicates that the message was issued by IMS Tools Generic Partner exit (GPR)

nnnn

Indicates the message identification number

x

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

GPR2901E: UNABLE TO LOCATE IMS SSCD

Explanation

Generic Partner exit could not locate IMS SSCD.

System action

The IMS control region ends abnormally with a U=3000.

User response

Contact IBM® Software support and provide dump.

GPR2902E: IMS RELEASE NOT SUPPORTED

Explanation

Generic Partner exit is executing in an unsupported IMS release.

System action

The IMS control region ends abnormally with a U=3000.

User response

Ensure that the Generic Partner exit that is being run is on a supported IMS release.

GPR2903E: LOAD FAILED FOR GPR MODULE *name*

Explanation

Generic Partner exit could not locate the named module.

System action

The IMS control region ends abnormally with a U=3000.

User response

Contact IBM® Software support.

GPR2905E: IMS GENERIC PARTNER EXIT INITIALIZATION FAILED**Explanation**

Generic Partner exit has failed to initialize.

System action

The IMS control region ends abnormally with a U=3000.

User response

Examine the previous messages for the reason.

GPR2908E: MVS NAME TOKEN SERVICE FAILED FOR *name*, RC=*nnnn*, RSN=*nnnn***Explanation**

Generic Partner exit has failed to obtain a name token.

System action

The IMS control region ends abnormally with a U=3000.

User response

Contact IBM® Software support.

GPR2909E: ERROR *action* PROCLIB MEMBER *member*, REASON=*reason***Explanation**

An error occurred while processing the IMS Generic Partner exit routine PROCLIB member *member* that was specified. The *action* that was taken might be READING or PARSING. The possible *reasons* for the error are as follow:

- NOSTG- no storage was available to perform the read
- OPENFAIL- the open failed for the IMS PROCLIB data set
- NOTFIXED- the IMS PROCLIB data set format is not FIXED
- READFAIL- the read failed for the IMS PROCLIB data set
- NOTFOUND- the specified PROCLIB member cannot be found

Invalid input data is detected by the parsing module and is assigned to one of the following reason codes:

X'40'

An invalid keyword was detected in the input data.

X'44'

An unknown positional parameter was encountered in the input.

X'48'

A keyword parameter was specified with an equal sign (KEYWORD=), but the keyword was defined as having a sublist of values. Sublists can be specified only in parentheses and an equal sign can be used only if a keyword has a single value.

X'4C'

The input ended before the entire sublist or keyword was parsed.

X'50'

A keyword was encountered (KEYWORD or KEYWORD=), but a value was expected instead.

X'54'

An input number that was being parsed was out of the range that is allowed for its output field length. For decimal numbers, the numbers must be less than or equal to 255 for 1-byte fields, 65535 for 2-byte fields, 16777215 for 3-byte fields, and 2147483647 for 4-byte fields. For hex numbers, the number cannot have digits that are more than two times the number of bytes in the output field.

X'58'

A parameter value that is defined as decimal contains non-decimal digits.

X'5C'

A parameter value that is defined as hex contains non-hex digits.

X'60'

A parameter value that is defined as a key value parameter has an unknown key value.

X'64'

A keyword parameter is present multiple times, but it is not defined as being repeatable.

X'68'

A parameter that is defined with REQUIRED=YES was not found in the input data.

X'6C'

A character parameter value is longer than the defined output field length, and truncation is not allowed.

System action

Processing continues, based on the INITFAIL keyword setting.

User response

Review the IMS GPR exit routine installation information to ensure that the PROCLIB member *member* has been specified correctly.

GPR2910E: PARTNER EXIT *name* INITIALIZATION FAILED

Explanation

The named exit has failed to initialize.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Contact the exit provider for support.

GPR2911W: MISSING OR INVALID EXIT

Explanation

Missing or invalid exit definition found.

System action

Processing continues based on the INITFAIL keyword setting.

User response

If no exit routines were defined (the PROCLIB member is empty), define the partner exit routines by using a PROCLIB member or a load module. If the exit definition is invalid, see the Generic Partner exit routine setup and usage information, and then redefine the exit routine.

If you want to disable the Generic Partner exit, remove the empty PROCLIB member. When an exit is not configured, it is disabled.

GPR2912E: DUPLICATE EXIT DEFINITION

Explanation

Duplicate exit definition found.

System action

Processing continues based on the INITFAIL keyword setting.

User response

Remove duplicate definitions and resubmit the job.

GPR2913W: NO EXIT DEFINITION FOUND**Explanation**

No partner exit definition was found by Generic Partner exit.

System action

Generic Partner exit will unregister itself from IMS and search for next partner exit in //STEPLIB or //JOBLIB. If one is found, control is passed to it.

User response

Make sure that you do not have more than one Partner exit in your IMS environment. If you have more than one Partner exit, you must adjust your configuration to have Generic Partner exit drive all existing Partner exits.

GPR2915E: ERROR LOADING EXIT *name* FROM LOADLIB=*name***Explanation**

An error occurred while loading the exit from the load library.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Make sure the exit exists and load library is APF-authorized

GPR2916W: GPROPT0 NOT FOUND. DEFAULT GLOBAL OPTIONS WILL BE USED**Explanation**

Invalid value was specified for the keyword.

System action

Processing continues. Default value is set for the keyword.

User response

Correct the error and resubmit the job.

GPR2917W: *keyword=name* IS NOT VALID. DEFAULT VALUE WILL BE USED**Explanation**

Invalid value was specified for the keyword.

System action

Processing continues. Default value is set for the keyword.

User response

Correct the error and resubmit the job.

GPR2918E: DYNAMIC ALLOCATION FAILED FOR *name* RC=nnnn, RSN=nnnn, INFO=nnnn

Explanation

Dynamic allocation failed for the named library.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Check meaning of SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM® Software Support.

GPR2919E: DYNAMIC DEALLOCATION FAILED FOR *name* RC=nnnn, RSN=nnnn, INFO=nnnn

Explanation

Dynamic deallocation failed for the named library.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Check the meaning of SVC 99 return code and the reason code. Correct the error and resubmit the job. If the problem persists, contact IBM® Software Support.

GPR2920E: *name* IS NOT APF-AUTHORIZED. INIT FOR EXIT *name* FAILED

Explanation

The named load library is not APF-authorized. Initialization for the named Partner exit failed.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Correct the error and resubmit the job.

GPR2923E: IMS GENERIC PARTNER ESTAE CREATE FAILED, RC=####

Explanation

Generic Partner exit failed to create its ESTAE recovery environment.

System action

The IMS control region ends abnormally with a U=3000.

User response

Contact IBM® Software Support.

GPR2924I: GPRIPUE0 NOT LOADED BY IMS

Explanation

Generic Partner exit DFSPUE0 was not the first Partner exit in IMS execution library concatenation.

System action

The IMS control region ends abnormally with a U=3000.

User response

Ensure that the Generic Partner exit, DFSPUE0 is the first in IMS library concatenation.

GPR2925E: ERROR OPENING LOAD LIB *name*

Explanation

An error occurred when Generic Partner exit tried to open the named load library.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Contact IBM® Software Support.

GPR2926I: Informational Messages

Explanation

Various informational messages showing Generic Partner exit processing.

System action

The IMS control region continues normally.

User response

None. This message is informational.

GPR2927E: ERROR GETTING ITASK ECB FOR ESTAE ROUTINE

Explanation

Generic Partner exit failed to obtain the ECB its executing under.

System action

The IMS control region ends abnormally with a U=3000.

User response

Contact IBM® Software Support.

GPR2928E: IMS GENERIC PARTNER EXIT TERMINATED DUE TO ERROR

Explanation

Generic Partner exit component has terminated because of an error.

System action

Generic Partner exit functions are no longer available.

User response

Examine previous error messages for the causes.

GPR2930E: EXIT *name* TERMINATED DUE TO ERROR

Explanation

The named Partner exit has been terminated because of an error.

System action

The named Partner exit will no longer be driven by Generic Partner exit.

User response

Examine previous error messages for the causes.

Generic Partner exit user abend codes

The IMS Tools Generic Partner exit (GPR) issues user abend codes that can help you with troubleshooting.

Generic Partner exit uses only one abend code: 3000.

For each abend code, the following information is provided where applicable:

Explanation:

The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

System action:

The System action section explains what the system will do next.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

3000:

Explanation

An error occurred while the Generic Partner exit routine was being processed. Additional error messages are issued that indicate the cause of the error. The following abend subcodes provide more information about the error:

X'65'

LOCATE SCD FAILED

X'66'

IMS RELEASE NOT SUPPORTED

X'67'

LOAD GPRIINTX FAILED

X'CA'

LOAD GPRCHKX FAILED

X'CC'

GPRIPE0 NOT LOADED BY IMS

X'CF'

MVS™ NAME TOKEN SERVICES FAILED

X'D0'

ERROR READING PROCLIB MEMBER

X'D1'

ERROR PARSING PROCLIB MEMBER

X'D2'

CREATE ESTAE FAILED

X'D3'

LOAD GPRIESTX FAILED

X'D4'

NO EXIT DEFINITIONS

X'D5'

DUPLICATE EXIT DEFINITIONS

X'D6'

LOAD GPRILODX FAILED

X'D7'

GET ITASK ECB FAILED

X'12D'

ALLOCATE LOADLIB FAILED

X'12E'

LOAD EXIT FAILED

X'12F'

OPEN LOADLIB FAILED

X'130'

LOADLIB NOT APF-AUTHORIZED

X'191'

GET ITASK ECB FAILED

System action

Processing is dependent on the settings of the IMS Generic Partner exit routine global processing options.

User response

Review the IMS control region job log for error messages that are associated with the problem. Correct the error if possible. If the problem persists, retain any diagnostic information and contact IBM® Software Support.

Generic MSC exit overview and usage

The IMS Tools Generic Transaction Manager and Multiple Systems Coupling Message Routing and Control User exit (also referred to as the Generic MSC exit with product prefix GEX) enables multiple copies of the IMS MSC exit routine (DFSMSCEO) to exist and to be driven within a single IMS environment. The Generic MSC exit drives other MSC exit routines.

Topics:

- [“Generic MSC exit overview” on page 38](#)
- [“Generic MSC exit definitions” on page 40](#)
- [“Global processing parameters” on page 41](#)

Generic MSC exit overview

The IMS Tools Generic TM and MSC Message Routing exit (also referred to as the Generic MSC exit with product prefix GEX) enables multiple copies of the IMS MSC exit routine (DFSMSCEO) to exist and to be driven within a single IMS environment. The Generic MSC exit drives other MSC exit routines.

The Generic MSC exit can be used with several IMS Tools products to perform transaction routing. You can also have your own MSC exit routine.

The purpose of the Generic MSC exit is to be a driver for other MSC exits. The Generic MSC exit is product-independent and does no product-specific work itself. It calls other MSC exits during IMS processing so each can perform message routing.

The Generic MSC exit is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool that you are using.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

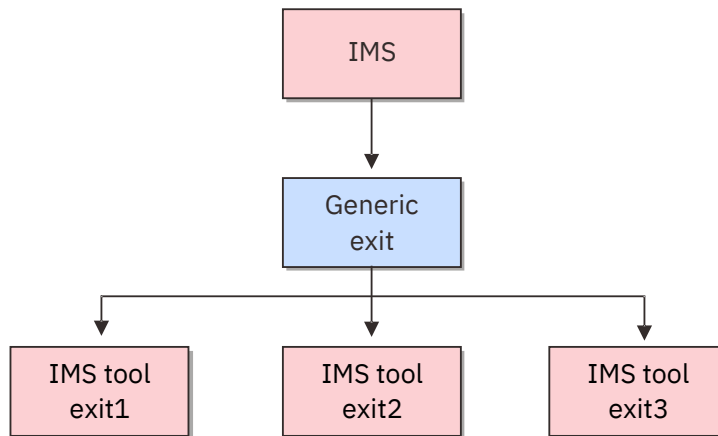


Figure 4: Exit control flow

For example, to configure IMS Sysplex Manager, you must specify GJEMSCE0 in the Generic MCS exit (GEX) PROCLIB member. When GJEMSCE0 is added to the GEX PROCLIB member, the Generic MSC exit calls GJEMSCE0 after the IMS initialization process calls the Generic MSC exit.

Coexistence with other MSC exits

The Generic MSC exit drives all other MSC exits under each IMS control region. In the //STEPLIB concatenation, placing the Generic MSC routine DFSMSCE0 (alias GEXMSCE0) as the first copy of the DFSMSCE0 is recommended.

If the Generic MSC exit cannot be at the beginning in the //STEPLIB concatenation because of another exit that must be first, the Generic MSC exit can be placed anywhere in the //STEPLIB under the following condition:

- The DFSMSCE0 that is before the Generic MSC exit must pass control to the Generic MSC exit. The Generic MSC exit can then call the remaining MSC exits that have been defined in the exit list.

Important: Ensure that you do not include the DFSMSCE0 in front of the Generic MSC exit in the exit list. Otherwise, a recursive call occurs, which causes a loop.

An exit can determine if it was called by the Generic MSC exit by checking for a literal, as shown in the following code. The literal is pointed by the register 14 + x'4'.

	BALR	R14,R15	CALL USER EXIT
	B	PASTID	SKIP ID
	DC	CL16 'GENERIC EXITS'	EYECATCHER
PASTID	DS	0H	

Generic MSC exit activation

To activate this exit, set up the required member that is described in [“Generic MSC exit definitions”](#) on page 40.

If you do not need this exit, do not configure it.

If no exit definitions are found, one of the following conditions occurs:

- If the Generic MSC exit is NOT first in //STEPLIB, the exit returns to its caller without passing control to the next DFSMSCE0 in the //STEPLIB stack.
- If the Generic MSC exit is first in //STEPLIB, the exit transfers control to the next DFSMSCE0 in the //STEPLIB stack and then removes itself from the IMS control region. The Generic MSC exit is not called by IMS again.

In both of the previous conditions, the Generic MSC exit is disabled.

Important: Before you disable a generic exit, ensure that the exit is not being used by another IMS Tools product. If you disable a generic exit that is being used by another IMS Tools product, that tool will not be able to operate.

Generic MSC exit definitions

The Generic MSC exit requires you to define a set of MSC exit routines. If these definitions are not set, the Generic MSC exit issues an error message and continues processing based on the setting of the INITFAIL parameter. No MSC exit routine can be invoked unless a set of QSN exit routines have been defined.

Generic MSC exit supports a BPE-style PROCLIB member for the MSC exit list.

The following two naming patterns for the definitions are supported so that you can use both IMS-specific definitions and, if needed, global definitions for cloned IMS environments:

- For IMS-specific definitions, the name follows the pattern: GEXxxxx0, where *xxxx* is the IMS ID.
- For global definitions that are not specific to any IMS system, the name is GEXEXIT0.

When Generic MSC exit initializes, the following search order is used to locate the exit routine definitions:

1. PROCLIB member GEXxxxx0
2. PROCLIB member GEXEXIT0

The first member that is located is used for the exit routine definitions. No other members are processed.

If no exit routine definition member is found or if the member is found but contains no definitions, the Generic MSC exit issues messages and continues processing based on the setting of the INITFAIL parameter.

PROCLIB member definitions

MSC exit routines are defined by using a PROCLIB member. Each exit routine must be defined by using a BPE-format control card.

The order of the statements in the member determines the order in which the exit routines are called.

Important: Because all MSC exits are able to affect the routing of a message, IMS Sysplex Manager's copy of DFSMSCE0 must be the last exit that is defined in the PROCLIB member so that IMS Sysplex Manager has the priority in determining where the message should be processed.

This member can be in any data set within the //PROCLIB DD concatenation in the IMS control region JCL.

The following example shows the format of the control card:

```
EXITDEF(TYPE(MSCE) EXITNAME(exit-name) LOADLIB(load-library))
```

The following rules apply to the control card:

- Each exit routine that is to be called must be specified in a separate EXITDEF() statement.
- The TYPE() keyword must be MSCE for this feature.
- The name of the exit routine is specified with the EXITNAME() keyword and must match a member name in the specified load library.
- The load library in which the exit routine resides is specified with the LOADLIB() keyword and must specify a cataloged load library that is APF-authorized and to which the IMS control region has access.

The Generic MSC exit tests the load library to ensure that it is APF-authorized (DEBAPFIN bit in the DEB). If the load library is not APF-authorized, the exit routine is not called, and error messages are issued. Processing continues based on the global statement specification.

The following sample shows a Generic MSC exit definition member for an IMS control region that includes a customized MSC exit routine and an IMS Sysplex Manager exit:


```
EXITDEF (TYPE(MSCE) EXITNAME(DFSMSCE0) LOADLIB(user.LOADLIB))
EXITDEF (TYPE(MSCE) EXITNAME(GJEMSCE0) LOADLIB(IMSSM.LOADLIB))
```

When the Generic MSC exit initializes, it loads each exit routine and calls it for initialization in the order that is specified in the member.

Global processing parameters

In addition to defining the actual MSC exit routines, you can optionally use global processing parameters to control the Generic MSC exit processing in error situations. You specify these parameters in the PROCLIB member or in the load module named GEXOPT0.

Three situations can occur in which you can drive the Generic MSC exit processing:

- When the Generic MSC exit is initializing and setup errors are detected, such as a missing exit routine definition member, control card errors, or when no exit routines are defined
- When processing an exit routine definition during initialization and the exit routine cannot be located or loaded, or the load library is not APF-authorized
- During invocation of an exit routine, an error occurs in the exit routine that causes an abend

In any of these cases, you can use a global parameter to make the Generic MSC exit generate an abend for the job or perform recovery processing and continue.

The following example shows the format of the global parameter when it is specified in the PROCLIB member:

```
GLOBAL (INITFAIL (ABEND | WARNING)
        EXITINIT (ABEND | TERMEXIT)
        EXITPROC (ABEND | TERMEXIT))
```

INITFAIL parameter

The INITFAIL parameter drives processing when an error occurs while attempting to initialize the Generic MSC exit.

The following errors can occur:

- The Generic MSC exit copy of DFSMSCE0 was not the first copy of DFSMSCE0 invoked.
- No exit definitions were found.
- Errors were detected in the exit definitions.

You can set the INITFAIL parameter to either of the following settings:

INITFAIL=ABEND

This setting causes the Generic MSC exit to issue an error message and return to IMS with RC=12.

INITFAIL=WARNING

This setting causes the Generic MSC exit to issue warning messages and return control to IMS with RC=0 to allow it to continue processing. In this case, no MSC exit routines are invoked during IMS processing. INITFAIL=WARNING is the default setting.

EXITINIT parameter

The EXITINIT parameter drives processing when an error occurs while attempting to locate or load the exit routine during the Generic MSC exit initialization or if the load library is not APF-authorized.

You can set the EXITINIT parameter to either of the following settings:

EXITINIT=ABEND

This setting causes the Generic MSC exit to issue an error message and return to IMS with RC=12.

EXITINIT=TERMEXIT

This setting causes the Generic MSC exit to issue an error message for the exit routine, and then continue processing the remaining exits. EXITINIT=TERMEXIT is the default setting.

EXITPROC parameter

The EXITPROC parameter drives the processing when an error occurs within the exit routine while it is processing.

You can set the EXITPROC parameter to either of the following settings:

EXITPROC=ABEND

This setting causes the Generic MSC exit to issue an error message and return to IMS with RC=12.

EXITPROC=TERMEXIT

This setting causes the Generic MSC exit to issue an error message for the exit routine, and then continue calling the remaining exits.
EXITPROC=TERMEXIT is the default setting.

Generic MSC exit messages (GEX)

The IMS Tools Generic MSC exit (GEX) issues messages that can help you understand the state of the exit and help you resolve errors.

Message format

IMS Tools Generic MSC exit (GEX) messages adhere to the following format:

```
GEXnnnnx
```

where:

GEX

Indicates that the message was issued by IMS Tools Generic MSC exit (GEX)

nnnn

Indicates the message identification number

x

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

GEX2902E: IMS RELEASE NOT SUPPORTED

Explanation

Generic MSC exit is executing in an unsupported IMS release.

System action

The IMS control region ends abnormally with U=4014.

User response

Ensure Generic MSC exit is being run on a supported IMS release.

GEX2903E: LOAD FAILED FOR GEX MODULE *name*

Explanation

Generic MSC exit could not locate the named module.

System action

The IMS control region ends abnormally with U=4014.

User response

Retain any diagnostic information and contact IBM® Software Support.

GEX2904E: CANNOT LOCATE STW IN POOL

Explanation

Generic MSC exit could not locate its static work area to continue processing.

System action

The IMS control region ends abnormally with U=4014.

User response

Retain any diagnostic information and contact IBM® Software Support.

GEX2905E: IMS GENERIC MSC EXIT INITIALIZATION FAILED

Explanation

Generic MSC exit has failed to initialize.

System action

The IMS control region ends abnormally with U=4014.

User response

Examine previous messages for possible reasons.

GEX2908E: MVS NAME TOKEN SERVICE FAILED FOR *name*, RC=*nnnn*, RSN=*nnnn*

Explanation

During the initialization process, the Generic MSC exit routine issued a request to obtain a name token from z/OS®, but the request failed with the return code and reason code that are included in the error message.

System action

The IMS control region ends abnormally with U=4014.

User response

Retain any diagnostic information and contact IBM® Software Support.

GEX2909E: ERROR action PROCLIB MEMBER *member*, REASON=*reason*

Explanation

An error occurred while processing the Generic MSC exit routine PROCLIB member *member* that was specified. The action taken might be READING or PARSING. The possible reasons for the error are:

- NOSTG (no storage available to perform read)
- OPENFAIL (open failed for IMS PROCLIB data set)
- NOTFIXED (IMS PROCLIB data set format is not FIXED)
- READFAIL (read failed for IMS PROCLIB data set)
- NOTFOUND (specified PROCLIB member cannot be found)

Invalid input data is detected by the parsing module and is assigned to the following reason codes:

X'40'

An invalid keyword was detected in the input data.

X'44'

An unknown positional parameter was encountered in the input.

X'48'

A keyword parameter was specified with an equal sign (KEYWORD=), but the keyword was defined as having a sublist of values. Sublists can be specified only in parentheses and an equal sign can be used only if a keyword has a single value.

X'4C'

The input ended before the entire sublist or keyword was parsed.

X'50'

A keyword was encountered (KEYWORD or KEYWORD=), but a value was expected.

X'54'

An input number that was being parsed was out of the range that is allowed for its output field length. For decimal numbers, the numbers must be less than or equal to 255 for 1-byte fields, 65535 for 2-byte fields, 16777215 for 3-byte fields, and 2147483647 for 4-byte fields. For hex numbers, the number cannot have digits that are more than two times the number of bytes in the output field.

X'58'

A parameter value that is defined as decimal contains non-decimal digits.

X'5C'

A parameter value that is defined as hex contains non-hex digits.

X'60'

A parameter value that is defined as a key value parameter has an unknown key value.

X'64'

A keyword parameter is present multiple times, but it is not defined as being repeatable.

X'68'

A parameter that is defined with REQUIRED=YES was not found in the input data.

X'6C'

A character parameter value is longer than the defined output field length, and truncation is not allowed.

System action

Processing continues, based on the INITFAIL keyword setting.

User response

Review the Generic MSC exit routine installation information to ensure that the PROCLIB member *member* has been specified correctly.

GEX2910E: MSC EXIT *name* INITIALIZATION FAILED.

Explanation

The named exit has failed to initialize.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Review other messages that are associated with this error. If the problem persists, contact the provider of the MSC exit routine for support.

GEX2911W: MISSING OR INVALID EXIT

Explanation

Missing or invalid exit definition found.

System action

Processing continues based on the INITFAIL keyword setting.

User response

If no exit routines were defined (the PROCLIB member is empty), define the MSC exit routines by using a PROCLIB member or a load module. If the exit definition is invalid, see the Generic MSC exit routine setup and usage information, and then redefine the exit routine.

If you want to disable the Generic MSC exit, remove the empty PROCLIB member. When an exit is not configured, it is disabled.

GEX2912E: DUPLICATE EXIT DEFINITION

Explanation

The Generic MSC exit routine has found duplicate exit routine definitions in a PROCLIB member or load module.

System action

Processing continues based on the INITFAIL keyword setting.

User response

Check the PROCLIB member or load module, delete the duplicate exit routine definition, and resubmit the job.

GEX2913W: NO EXIT DEFINITION FOUND

Explanation

No MSC exit definition was found by Generic MSC exit.

System action

Generic MSC exit will unregister itself from IMS and search for next MSC exit in //STEPLIB or //JOBLIB. If one is found, control is passed to it.

User response

Make sure that you do not have more than one MSC exit in your IMS environment. If you have more than one MSC exit, you must adjust your configuration to have Generic MSC exit drive all existing MSC exits.

GEX2915E: ERROR LOADING EXIT *name* FROM LOADLIB=*name*

Explanation

An error occurred when the Generic MSC exit routine attempted to load the exit routine from the load library name. The exit routine might not exist in the library, or the library is not APF-authorized.

System action

Processing continues, based on the EXITINIT keyword setting.

User response

Ensure that the exit routine exists and that the load library is APF-authorized.

GEX2916W: GEXOPT0 NOT FOUND. DEFAULT GLOBAL OPTIONS WILL BE USED**Explanation**

Invalid value was specified for the keyword

System action

Processing continues. Default value is set for the keyword

User response

Correct the error and resubmit the job.

GEX2917W: KEYWORD=*name* IS NOT VALID. DEFAULT VALUE WILL BE USED**Explanation**

The Generic MSC exit routine found that an invalid value was specified for the keyword.

System action

Processing continues. The default value is set for the keyword.

User response

Correct the error and resubmit the job.

GEX2918E: DYNAMIC ALLOCATION FAILED FOR *name* RC=*nnnn*, RSN=*nnnn*, INFO=*nnnn***Explanation**

The Generic MSC exit routine failed to dynamically allocate the load library. The dynamic allocation return code RC=*nnnn* and reason code RSN=*nnnn* are included in the message.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Check the SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM® Software Support.

GEX2919E: DYNAMIC DEALLOCATION FAILED FOR *name* RC=*nnnn*, RSN=*nnnn*, INFO=*nnnn***Explanation**

The Generic MSC exit routine failed to dynamically deallocate the load library. The dynamic allocation return code RC=*nnnn* and reason code RSN=*nnnn* are included in the message.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Check the SVC 99 return code and reason code. Correct the error and resubmit the job. If the problem persists, contact IBM® Software Support.

GEX2920E: *name* IS NOT APF-AUTHORIZED. INIT FOR EXIT *name* FAILED.

Explanation

The load library *name* is not APF-authorized. Initialization for the MSC exit routine *name* failed.

System action

Processing continues based on the EXITINIT keyword setting

User response

Ensure the load library is APF-authorized and resubmit the job.

GEX2921E: COULD NOT LOCATE MSC ENTRY POINTS FOR EXIT *name*. INIT FOR EXIT *name* FAILED.

Explanation

Entry points for the named MSC exit could not be located. Initialization for the named MSC exit failed.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Make sure VECTOR=MSCVTABLE is used in the DFSMSCVT macro in the named MSC exit.

GEX2923E: IMS GENERIC MSC ESTAE CREATE FAILED, RC=####

Explanation

The Generic MSC exit routine failed to create its ESTAE recovery environment.

System action

The IMS control region ends abnormally with U=4014.

User response

Retain any diagnostic information and contact IBM® Software Support.

GEX2924I: GEXMSCE0 NOT LOADED BY IMS

Explanation

The Generic MSC exit routine DFSMSCE0 was not the first MSC exit in the IMS execution library concatenation.

System action

The IMS control region ends abnormally with U=4014.

User response

Ensure that the Generic MSC exit routine DFSMSCE0 is the first MSC exit routine in the IMS concatenation.

GEX2925E: ERROR OPENING LOAD LIB *name*

Explanation

An error occurred when the Generic MSC exit routine attempted to open the named load library.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Retain any diagnostic information and contact IBM® Software Support.

GEX2926I: Informational Messages

Explanation

These messages include several types of informational messages that display and describe the Generic MSC exit routine processing.

System action

The IMS control region continues normally.

User response

None. This message is informational.

GEX2928E: IMS GENERIC MSC EXIT TERMINATED DUE TO ERROR

Explanation

A Generic MSC exit routine component has terminated due to an error.

System action

The Generic MSC exit functions are no longer available.

User response

Examine previous error messages for causes.

GEX2930E: EXIT *name* TERMINATED DUE TO ERROR

Explanation

The named MSC exit has been terminated due to an error.

System action

The named MSC exit can no longer be driven by the Generic MSC exit.

User response

Examine previous error messages for causes.

Generic MSC exit user abend codes

The IMS Tools Generic MSC exit (GEX) issues user abend codes that can help you with troubleshooting.

Generic MSC exit uses only one abend code: 4014.

For each abend code, the following information is provided where applicable:

Explanation:

The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

System action:

The System action section explains what the system will do next.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

4014:

Explanation

An error occurred while the Generic MSC exit routine was being processed. Additional error messages are issued that indicate the cause of the error. The following abend subcodes provide more information about the error:

X'66'

IMS RELEASE NOT SUPPORTED

X'67'

LOAD GEXIINTX FAILED

X'68'

INVALID ENVIRONMENT

X'69'

GEXIMSCX NOT LOADED

X'CA'

LOAD GEXICLKX FAILED

X'CB'

LOAD GEXIMSCX FAILED

X'CC'

GEXMSCE0 NOT LOADED BY IMS

X'CD'

DUPLICATE INIT CALL

X'CE'

INVALID CALL

X'CF'

MVS™ NAME TOKEN SERVICES FAILED

X'D0'

ERROR READING PROCLIB MEMBER

X'D1'

ERROR PARSING PROCLIB MEMBER

X'D2'

CREATE ESTAE FAILED

X'D3'

LOAD GEXIESTX FAILED

X'D4'

NO EXIT DEFINITIONS

X'D5'

DUPLICATE EXIT DEFINITIONS

X'D6'

LOAD GEXILODX FAILED

X'12D'

ALLOCATE LOADLIB FAILED

X'12E'

LOAD EXIT FAILED

X'12F'

OPEN LOADLIB FAILED

X'130'

LOADLIB NOT APF-AUTHORIZED

System action

Processing is dependent on the settings of the IMS Multiple Systems Coupling exit routine global processing options.

User response

Review the IMS control region job log for error messages that are associated with the problem. Correct the error if possible. If the problem persists, retain any diagnostic information and contact IBM® Software Support.

Generic QSN exit overview and usage

The IMS Tools Queue Space Notification exit (also referred to as the Generic QSN exit with product prefix GEXQ) enables multiple copies of the IMS QSN exit routine (DFSQSSP0) to exist and to be driven within a single IMS environment. The Generic QSN exit drives other QSN exit routines.

Topics:

- [“Generic QSN exit overview” on page 50](#)
- [“Generic QSN exit definitions” on page 51](#)
- [“Global processing parameters” on page 52](#)

Generic QSN exit overview

The IMS Tools Generic Queue Space Notification exit (also referred to as the Generic QSN exit with product prefix GEXQ) enables multiple copies of the IMS QSN exit routine (DFSQSSP0) to exist and to be driven within a single IMS environment. The Generic QSN exit drives other QSN exit routines.

The Generic QSN exit can be used with several IMS Tools products to protect against local buffer overflows. You can also have your own QSN exit routine.

The purpose of the Generic QSN exit is to be a driver for other QSN exits. The Generic QSN exit is product-independent and does no product-specific work. It calls other QSN exits during IMS processing for queue space monitoring.

The Generic QSN exit is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool that you are using.

Exit control flow

During the initialization process, IMS calls the IMS Tools Generic Exits. The generic exits then call other exits that are defined in their PROCLIB members.

The exit control flow during IMS initialization is summarized in the following figure:

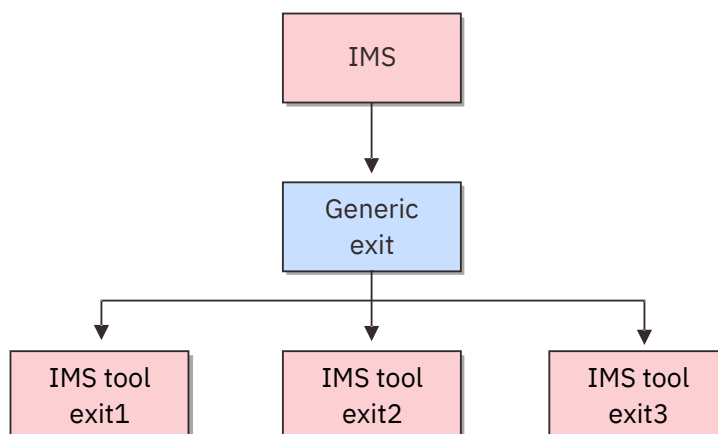


Figure 5: Exit control flow

For example, to configure IMS Sysplex Manager, you must specify GJEQSSP0 in the Generic QSN exit (GEXQ) PROCLIB member. When GJEQSSP0 is added to the GEXQ PROCLIB member, the Generic QSN exit calls GJEQSSP0 after the IMS initialization process calls the Generic QSN exit.

Coexistence with other QSN exits

The Generic QSN exit drives all other QSN exits under each IMS control region. In the //STEPLIB concatenation, placing the Generic exit routine DFSQSSP0 (alias GEXQSSP0) as the first copy of the DFSQSSP0 is recommended.

If the Generic QSN exit cannot be at the beginning in the //STEPLIB concatenation because of another exit that must be first, the Generic QSN exit can be placed anywhere in the //STEPLIB under the following condition:

- The DFSQSSP0 that is before the Generic QSN exit must pass control to the Generic QSN exit. The Generic QSN exit can then call the remaining QSN exits that have been defined in the exit list.

Important: Ensure that you do not include the DFSQSSP0 in front of the Generic QSN exit in the exit list. Otherwise, a recursive call occurs, which causes a loop.

An exit can determine if it was called by the Generic QSN exit by checking for a literal, as shown in the following code. The literal is pointed by the register 14 + x'4'.

	BALR	R14,R15	CALL USER EXIT
	B	PASTID	SKIP ID
	DC	CL16 'GENERIC EXITS'	EYECATCHER
PASTID	DS	0H	

Generic QSN exit activation

To activate this exit, set up the required member that is described in [“Generic QSN exit definitions” on page 51](#).

If you do not need this exit, do not configure it.

If no exit definitions are found, one of the following conditions occurs:

- If the Generic QSN exit is NOT first in //STEPLIB, the exit returns to its caller without passing control to the next DFSQSSP0 in the //STEPLIB stack.
 - If the Generic QSN exit is first in //STEPLIB, the exit transfers control to the next DFSQSSP0 in the //STEPLIB stack and then removes itself from the IMS control region. The Generic QSN exit is not called by IMS again.
- In both of the previous conditions, the Generic QSN exit is disabled.

Important: Before you disable a generic exit, ensure that the exit is not being used by another IMS Tools product. If you disable a generic exit that is being used by another IMS Tools product, that tool will not be able to operate.

Generic QSN exit definitions

The Generic QSN exit requires you to define a set of QSN exit routines. If these definitions are not set, the Generic QSN exit issues an error message and continues processing based on the setting of the INITFAIL parameter. No QSN exit routine can be invoked unless a set of QSN exit routines have been defined.

Generic QSN exit supports a BPE-style PROCLIB member for the QSN exit list.

The following two naming patterns for the definitions are supported so that you can use both IMS-specific definitions and, if needed, global definitions for cloned IMS environments:

- For IMS-specific definitions, the name follows the pattern: GEXQxxxx, where xxxx is the IMS ID.
- For global definitions that are not specific to any IMS system, the name is GEXQEXIT.

When Generic QSN exit initializes, the following search order is used to locate the exit routine definitions:

1. PROCLIB member GEXQxxxx
2. PROCLIB member GEXQEXIT

The first member that is located is used for the exit routine definitions. No other members are processed.

If no exit routine definition member is found or if the member is found but contains no definitions, the Generic QSN exit issues messages and continues processing based on the setting of the INITFAIL parameter.

PROCLIB member definitions

QSN exit routines are defined by using a PROCLIB member. Each exit routine must be defined by using a BPE-format control card.

The order of the statements in the member determines the order in which the exit routines are called.

Important: Because all QSN exits are able to affect the routing of a message, IMS Sysplex Manager's copy of DFSQSSP0 must be the last exit that is defined in the PROCLIB member so that IMS Sysplex Manager has the priority in determining the IMS action to prevent buffer overflows.

This member can be in any data set within the //PROCLIB DD concatenation in the IMS control region JCL.

The following example shows the format of the control card:

```
EXITDEF (TYPE(QSNE) EXITNAME(exit-name) LOADLIB(load-library))
```

The following rules apply to the control card:

- Each exit routine that is to be called must be specified in a separate EXITDEF() statement.
- The TYPE() keyword must be QSNE for this feature.
- The name of the exit routine is specified with the EXITNAME() keyword and must match a member name in the specified load library.
- The load library in which the exit routine resides is specified with the LOADLIB() keyword and must specify a cataloged load library that is APF-authorized and to which the IMS control region has access.

The Generic QSN exit tests the load library to ensure that it is APF-authorized (DEBAPFIN bit in the DEB). If the load library is not APF-authorized, the exit routine is not called and error messages are issued. Processing continues based on the global statement specification.

The following sample shows a Generic QSN exit definition member for an IMS control region that includes a customized QSN exit routine and an IMS Sysplex Manager exit:

```
EXITDEF (TYPE(QSNE) EXITNAME(DFSQSSP0) LOADLIB(user.LOADLIB))  
EXITDEF (TYPE(QSNE) EXITNAME(GJEQSSP0) LOADLIB(IMSSM.LOADLIB))
```

When the Generic QSN exit initializes, it loads each exit routine and calls it for initialization in the order that is specified in the member.

Global processing parameters

In addition to defining the actual QSN exit routines, you can optionally use global processing parameters to control the Generic QSN exit processing in error situations. You specify these parameters in the PROCLIB member or in the load module named GEXQOPT0.

Three situations can occur in which you can drive the Generic QSN exit processing:

- When the Generic QSN exit is initializing and setup errors are detected, such as a missing exit routine definition member, control card errors, or when no exit routines are defined
- When processing an exit routine definition during initialization and the exit routine cannot be located or loaded, or the load library is not APF-authorized
- During invocation of an exit routine, an error occurs in the exit routine that causes an abend

In any of these cases, you can use a global parameter to make the Generic QSN exit generate an abend for the job or perform recovery processing and continue.

The following example shows the format of the global parameter when it is specified in the PROCLIB member:

```
GLOBAL (INITFAIL (ABEND | WARNING)  
        EXITINIT (ABEND | TERMEXIT)  
        EXITPROC (ABEND | TERMEXIT))
```

INITFAIL parameter

The INITFAIL parameter drives processing when an error occurs while attempting to initialize the Generic QSN exit.

The following errors can occur:

- The Generic QSN exit copy of DFSQSSP0 was not the first copy of DFSQSSP0 invoked.
- No exit definitions were found.
- Errors were detected in the exit definitions.

You can set the INITFAIL parameter to either of the following settings:

INITFAIL=ABEND

This setting causes the Generic QSN exit to issue an error message and return to IMS with RC=12.

INITFAIL=WARNING

This setting causes the Generic QSN exit to issue warning messages and return control to IMS with RC=0 to allow it to continue processing. In this case, no QSN exit routines are invoked during IMS processing. INITFAIL=WARNING is the default setting.

EXITINIT parameter

The EXITINIT parameter drives processing when an error occurs while attempting to locate or load the exit routine during the Generic QSN exit initialization or if the load library is not APF-authorized.

You can set the EXITINIT parameter to either of the following settings:

EXITINIT=ABEND

This setting causes the Generic QSN exit to issue an error message and return to IMS with RC=12.

EXITINIT=TERMEXIT

This setting causes the Generic QSN exit to issue an error message for the exit routine, and then continue processing the remaining exits. EXITINIT=TERMEXIT is the default setting.

EXITPROC parameter

The EXITPROC parameter drives the processing when an error occurs within the exit routine while it is processing.

You can set the EXITPROC parameter to either of the following settings:

EXITPROC=ABEND

This setting causes the Generic QSN exit to issue an error message and return to IMS with RC=12.

EXITPROC=TERMEXIT

This setting causes the Generic QSN exit to issue an error message for the exit routine, and then continue calling the remaining exits. EXITPROC=TERMEXIT is the default setting.

Generic QSN exit messages (GEXQ)

The IMS Tools Generic QSN exit (GEXQ) issues messages that can help you understand the state of the exit and help you resolve errors.

Message format

IMS Tools Generic QSN exit (GEXQ) messages adhere to the following format:

```
GEXQnnn $\times$ 
```

where:

GEXQ

Indicates that the message was issued by IMS Tools Generic QSN exit (GEXQ)

nnn

Indicates the message identification number

x

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

GEXQ902E: IMS RELEASE NOT SUPPORTED

Explanation

The Generic QSN exit is trying to run in an unsupported IMS release.

System action

The IMS control region ends abnormally with a U=4016abend.

User response

Ensure that the Generic QSN exit is being run on a supported IMS release.

GEXQ903E: LOAD FAILED FOR GEXQ MODULE *name*

Explanation

The Generic QSN exit could not locate the named module.

System action

The IMS control region ends abnormally with a U=4016abend.

User response

Contact IBM® Software Support.

GEXQ905E: IMS GENERIC QSN EXIT INITIALIZATION FAILED

Explanation

Generic QSN exit has failed to initialize.

System action

The IMS control region ends abnormally with a U=4016abend.

User response

See the previously issued error messages to determine the problem.

GEXQ908E: MVS NAME TOKEN SERVICE FAILED FOR *name*, RC=*nnnn*, RSN=*nnnn***Explanation**

Generic QSN exit failed to obtain a name token.

System action

The IMS control region ends abnormally with a U=4016abend.

User response

Contact IBM® Software Support and provide the message number, return code, and reason code.

GEXQ909E: ERROR *action* PROCLIB MEMBER *member*, REASON=*reason***Explanation**

An error occurred while processing the Generic QSN exit routine PROCLIB member *member* that was specified. The action taken might be READING or PARSING. The possible reasons for the error are:

- NOSTG (no storage available to perform read)
- OPENFAIL (open failed for IMS PROCLIB data set)
- NOTFIXED (IMS PROCLIB data set format is not FIXED)
- READFAIL (read failed for IMS PROCLIB data set)
- NOTFOUND (specified PROCLIB member cannot be found)

Invalid input data is detected by the parsing module and is assigned to the following reason codes:

X'40'

An invalid keyword was detected in the input data.

X'44'

An unknown positional parameter was encountered in the input.

X'48'

A keyword parameter was specified with an equal sign (KEYWORD=), but the keyword was defined as having a sublist of values. Sublists can be specified only in parentheses, and an equal sign can be used only if a keyword has a single value.

X'4C'

The input ended before the entire sublist or keyword was parsed.

X'50'

A keyword was encountered (KEYWORD or KEYWORD=), but a value was expected.

X'54'

An input number that was being parsed was out of the range that is allowed for its output field length. Decimal numbers must be less than or equal to 255 for 1-byte fields, 65535 for 2-byte fields, 16777215 for 3-byte fields, and 2147483647 for 4-byte fields. Hexadecimal numbers cannot have digits that are more than two times the number of bytes in the output field.

X'58'

A parameter value that is defined as decimal contains non-decimal digits.

X'5C'

A parameter value that is defined as hexadecimal contains non-hexadecimal digits.

X'60'

A parameter value that is defined as a key value parameter has an unknown key value.

X'64'

A keyword parameter is present multiple times, but it is not defined as being repeatable.

X'68'

A parameter that is defined with REQUIRED=YES was not found in the input data.

X'6C'

A character parameter value is longer than the defined output field length, and truncation is not allowed.

System action

Processing continues, based on the INITFAIL keyword setting.

User response

Review the Generic QSN exit routine installation information to ensure that the PROCLIB member *member* has been specified correctly.

GEXQ910E: QSN EXIT *name* INITIALIZATION FAILED.**Explanation**

The named exit failed to initialize.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Contact the exit provider for support.

GEXQ911W: MISSING OR INVALID EXIT**Explanation**

During initialization, the Generic QSN exit routine did not find a logger exit routine that was defined, or one was defined incorrectly.

System action

Processing continues based on the INITFAIL keyword setting.

User response

If no exit routines were defined (the PROCLIB member is empty), define the QSN exit routines by using a PROCLIB member or a load module. If the exit definition is invalid, see the Generic QSN exit routine setup and usage information, and then redefine the exit routine.

If you want to disable the Generic QSN exit, remove the empty PROCLIB member. When an exit is not configured, it is disabled.

GEXQ912E: DUPLICATE EXIT DEFINITION**Explanation**

A duplicate exit definition was found.

System action

Processing continues based on the INITFAIL keyword setting.

User response

Delete the duplicate QSN exit routine definition from the PROCLIB member or load module.

GEXQ915E: ERROR LOADING EXIT *name* FROM LOADLIB=*name***Explanation**

An error occurred when the Generic QSN exit routine attempted to load the exit routine from the load library *name*. The exit routine either does not exist in the library, or the library is not APF-authorized.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Ensure that the exit routine exists and that the load library is APF-authorized.

GEXQ916W: GEXQOPT0 NOT FOUND. DEFAULT GLOBAL OPTIONS WILL BE USED**Explanation**

An invalid value was specified for the keyword.

System action

Processing continues. The default value is set for the keyword.

User response

Correct the error and resubmit the job.

GEXQ917W: KEYWORD=*name* IS NOT VALID. DEFAULT VALUE WILL BE USED**Explanation**

An invalid value was specified for the keyword.

System action

Processing continues. The default value is set for the keyword.

User response

Correct the error and resubmit the job.

GEXQ920E: *name* IS NOT APF-AUTHORIZED. INIT FOR EXIT *name* FAILED.**Explanation**

The load library *name* is not APF-authorized. Initialization for the QSN exit routine *name* failed.

System action

Processing continues based on the EXITINIT keyword setting

User response

APF-authorize the load library and resubmit the job.

GEXQ923E: IMS GENERIC QSN ESTAE CREATE FAILED, RC=*nnnn***Explanation**

The Generic QSN exit routine failed to create its ESTAE recovery environment.

System action

The IMS control region ends abnormally with a U=4016abend.

User response

Contact IBM® Software Support.

GEXQ924I: GEXQSSP0 NOT LOADED BY IMS**Explanation**

The Generic QSN exit routine DFSQSSP0 was not the first logger exit routine found in the IMS execution library concatenation.

System action

The IMS control region ends abnormally with a U=4016 abend.

User response

Reorganize the IMS library concatenation so that the Generic QSN exit routine DFSQSSP0 is the first QSN exit routine in the concatenation.

GEXQ925E: ERROR OPENING LOAD LIB *name*

Explanation

An error occurred when the Generic QSN exit routine attempted to open load library *name*.

System action

Processing continues based on the EXITINIT keyword setting.

User response

Contact IBM® Software Support.

GEXQ926I: Informational Messages

Explanation

Various informational messages showing Generic QSN exit processing.

System action

The IMS control region continues normally.

User response

None. This message is informational.

GEXQ928E: IMS GENERIC QSN EXIT TERMINATED DUE TO ERROR

Explanation

A Generic QSN exit component has terminated because of an error.

System action

The Generic QSN exit routine is disabled. Generic QSN exit functions are no longer available.

User response

See the previously issued error messages to determine the problem.

GEXQ930E: EXIT *name* TERMINATED DUE TO ERROR

Explanation

The QSN exit routine *name* has been terminated because of an error.

System action

The Generic QSN exit routine can no longer drive the *name* QSN exit routine.

User response

See the previously issued error messages to determine the problem.

Generic QSN exit user abend codes

The IMS Tools Generic QSN exit (GEXQ) issues user abend codes that can help you with troubleshooting.

Generic QSN exit uses only one abend code: 4016.

For each abend code, the following information is provided where applicable:

Explanation:

The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

System action:

The System action section explains what the system will do next.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

4016:

Explanation

An error occurred while the Generic QSN exit routine was being processed. Additional error messages are issued that indicate the cause of the error. The following abend subcodes provide more information about the error:

X'66'

IMS RELEASE NOT SUPPORTED

X'67'

LOAD GEXQINTX FAILED

X'68'

INVALID ENVIRONMENT

X'69'

GEXQSSPX NOT LOADED

X'CB'

LOAD GEXQSSPX FAILED

X'CC'

GEXQSSP0 NOT LOADED BY IMS

X'CD'

DUPLICATE INIT CALL

X'CE'

INVALID CALL

X'CF'

MVS™ NAME TOKEN SERVICES FAILED

X'D0'

ERROR READING PROCLIB MEMBER

X'D1'

ERROR PARSING PROCLIB MEMBER

X'D2'

CREATE ESTAE FAILED

X'D3'

LOAD GEXQESTX FAILED

X'D4'

NO EXIT DEFINITIONS

X'D5'

DUPLICATE EXIT DEFINITIONS

X'D6'

LOAD GEXQLODX FAILED

X'12D'

ALLOCATE LOADLIB FAILED

X'12E'

LOAD EXIT FAILED

X'12F'

OPEN LOADLIB FAILED

X'130'

LOADLIB NOT APF-AUTHORIZED

System action

Processing is dependent on the settings of the IMS Queue Space Notification exit routine global processing options.

User response

Review the IMS control region job log for error messages that are associated with the problem. Correct the error if possible. If the problem persists, retain any diagnostic information and contact IBM® Software Support.

IMS Tools Online System Interface reference

IMS Tools Online System Interface is a general purpose command interface that allows IMS Tools products to interface with all supported IMS versions.

Information about IMS Tools Online System Interface is provided in the following topics:

Topics:

- [“IMS Tools Online System Interface overview” on page 61](#)
- [“Guidelines for using IMS Tools Online System Interface” on page 61](#)
- [“Configuring IMS Tools Online System Interface” on page 62](#)
- [|<“IMS Tools Online System Interface client API installation verification program \(TOSI client API IVP\)” on page 62>|](#)
- [“IMS Tools Online System Interface messages \(FOI\)” on page 70](#)
- [“IMS Tools Online System Interface abend codes” on page 93](#)

IMS Tools Online System Interface overview

IMS Tools Online System Interface (product prefix FOI) is a general purpose command interface that allows IMS Tools products to interface with all supported IMS versions. IBM® IMS Tools products use IMS Tools Online System Interface to issue action commands and IMS commands.

IMS Tools Online System Interface is started during IMS initialization.

IMS Tools Online System Interface reorganization and recovery solutions allow other clients to start and stop full-function database resources and issue IMS commands that need to interact with online the DB/DC IMS or CICS® DBCTL systems that own the target databases.

IMS Tools Online System Interface is designed to operate on any hardware and software configuration that supports the required versions of IMS. For detailed specifications, refer to the appropriate Program Directory for the IMS Tool you are using.

Guidelines for using IMS Tools Online System Interface

IMS Tools Online System Interface is a general purpose command interface that allows IMS Tools products to interface with all supported IMS versions.

IMS Tools Online System Interface is a component of IMS Tools Base and is a prerequisite for multiple IMS Tools products. IMS Tools Online System Interface can also be shared with multiple IMS Tools products. The product prefix for IMS Tools Online System Interface is FOI.

The version of IMS Tools Online System Interface that is contained in the IMS Tools Base supersedes and replaces all previous versions.

Always refer to the appropriate Program Directory for any IMS Tools product to determine the prerequisites for installing and operating the product.

Migration considerations for IMS Tools Online System Interface

If you are using earlier versions of IMS Tools Online System Interface, you can safely install the most current version of the IMS Tools Online System Interface into your environment, but you must first review the following migration considerations:

- The current FMID is fully compatible with prior releases of IMS Tools products and common code.
- In the current FMID, IMS Tools Online System Interface does not ship its partner exit under the name DFSPUE0. The IMS Tools Online System Interface partner exit is named FOIPPUE0 and must be defined to the Generic Partner exit.
- In the current FMID, IMS Tools Online System Interface no longer searches for and invokes another DFSPUE0. All DFSPUE0 instances must be defined to the Generic Partner exit.

- You can continue to use your existing FOI*msidP* PROCLIB member. You do not need to make any changes to the PROCLIB member for the current FMID.
- If you are upgrading from IMS Tools Online System Interface 1.1 (FMID H2B7110) or 1.2 (FMID H2B7120) to the current FMID, you must define the IMS Tools Online System Interface partner exit (FOIPPUE0) to the Generic Partner exit (GPR).
- If you are using IMS Tools Online System Interface in an environment that contains multiple IMS Tools products at mixed version and release levels, you must always install and run the highest level of IMS Tools Online System Interface that is available.

After installing the IMS Tools Base, see [“Configuring IMS Tools Online System Interface” on page 62](#) to configure the IMS Tools Online System Interface to work with the Generic Partner exit.

Configuring IMS Tools Online System Interface

You must configure IMS Tools Online system Interface.

Information about configuring IMS Tools Online System Interface and other IMS Tools Base components is provided in the [IMS Tools Base Configuration Guide](#).

You can also download a PDF version of this information from the [IMS Tools Product Documentation](#) page.

IMS Tools Online System Interface client API installation verification program (TOSI client API IVP)

Use the IMS Tools Online System Interface client API installation verification program (TOSI client API IVP) to verify that the TOSI server in the IMS control region is running without issues and to issue TOSI action commands by using the TOSI client API.

|<

The following TOSI action commands are supported for DEDBs:

- REPLDMCB to replace the DEDB master control block (DMCB)
- REPLRAND to replace the randomizer

By using these TOSI action commands, you can delete DEDB areas while taking only the target areas offline, without stopping the entire database.

Topics:

- [“Running the TOSI client API IVP” on page 62](#)
- [“EXEC and DD statements for the TOSI client API IVP” on page 63](#)
- [“Control statements for the TOSI client API IVP” on page 64](#)
- [“Output from the TOSI client API IVP” on page 65](#)
- [“JCL examples for the TOSI client API IVP” on page 69](#)

>|

Running the TOSI client API IVP

|<The TOSI client API IVP runs as a standard z/OS batch job. To issue a TOSI action command, code the JCL for the TOSI client API IVP and run the job.>|

Procedure

1. |<Write the EXEC and DD statements.>|
|<For the format of the EXEC statement and the list of DD statements, see [“EXEC and DD statements for the TOSI client API IVP” on page 63](#).>|
2. |<Code the control statement in the SYSIN data set.>|
|<For the syntax of the control statement, see [“Control statements for the TOSI client API IVP” on page 64](#). For JCL examples, see [“JCL examples for the TOSI client API IVP” on page 69](#).>|

|<

The following figure shows a JCL example for the TOSI client API IVP:

Figure 6: TOSI client API IVP JCL example

```
//TOSIIVP JOB CLASS=A
//IVPRUN EXEC PGM=FOICIVP0,PARM='TOIIMS1,CLIENT'
//STEPLIB DD DISP=SHR,DSN=ITB.SFOILOAD
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
REPLRAND DB(IVPDB3) RAND(RMOD5)
/*
```

>|

3. |<Run the TOSI client API IVP job to issue the TOSI action command. Ensure that the job return code and the return code in the command response are both 0.>|

|<For examples of the TOSI client API IVP output, see [“Output from the TOSI client API IVP” on page 65.](#)>|

EXEC and DD statements for the TOSI client API IVP

|<Specify an EXEC statement and DD statements to define the input and output data sets in the JCL.>|

|<

EXEC statement

The EXEC statement must use the following format:

```
//IVPRUN EXEC PGM=FOICIVP0,PARM='TOIimsid,CLIENT'
```

The PARM field must contain two keywords in this order:

TOIimsid

Specify the string TOI followed by your XCF group name as defined in the FOIssidP member in IMS PROCLIB.

CLIENT

Specify the string CLIENT.

>|

|<

Summary of DD statements

DD statements of the TOSI client API IVP determine the input and output data sets and how the TOSI client API IVP runs.

The following table summarizes the DD statements for the TOSI client API IVP.

Table 5: DD statements for the TOSI client API IVP			
DD name	Use	Format	Required or optional
STEPLIB	Input	RECFM=U	Required
SYSIN	Input	RECFM=FB,LRECL=80	Required
SYSPRINT	Output	RECFM=FBA,LRECL=133	Required

>|

|<

DD statements for input

The following input DD statements are used for the TOSI client API IVP.

STEPLIB

Required. Specifies the load module library of IMS Tools Base (SFOILOAD).

SYSIN

Required. Specifies the input control statements that control the behavior of the TOSI client API IVP. This DD statement can refer to a SYSIN file, a sequential data set, or a PDS member. LRECL=80 is required for the DCB of this data set.

>|
|<

DD statements for output

The following output DD statement is used for the TOSI client API IVP.

SYSPRINT

Required. Specifies the output data set that stores processing messages that are issued by the TOSI client API IVP.

>|

Control statements for the TOSI client API IVP

|<The control statements for the TOSI client API IVP are specified in the SYSIN data set. Each job can include only one control statement. Each control statement contains a TOSI action command followed by its parameters.>|

|<

The following TOSI action commands are supported: REPLDMCB and REPLRAND.

>|
|<

REPLDMCB action command

The REPLDMCB action command replaces the DEDB master control block (DMCB).

When this command is issued, TOSI reads pending ACB members from the staging data set of the IMS directory and uses them to replace the DMCB.

Restrictions:

- This command can be used only for AREA deletion that does not involve PSB changes.
- This command cannot be used for a DEDB that has a Fast Path secondary index (FPSI). When you delete DEDB areas for a DEDB with FPSI, the IMS IMPORT DEFN SOURCE(CATALOG) command fails with completion code 137 (NO PSB FOR CHANGED DB IN STAGING), because the ACB cannot be imported from the staging data set of the IMS catalog.

Specify this command as follows:

```
REPLDMCB DB(dbdname)
```

DB(*dbdname*)

Specify the database name.

>|
|<

REPLRAND action command

The REPLRAND action command replaces the randomizer.

When this command is issued, TOSI checks whether the new randomizer is in use by other DEDBs. If the randomizer is not in use, TOSI deletes the current randomizer and loads the new randomizer.

If the randomizer is an XCI randomizer, TOSI terminates and deletes the current randomizer, then loads and initializes the new randomizer.

TOSI can replace the randomizer only when no other databases use the new randomizer.

This command requires the new randomizer to be in the STEPLIB of the IMS control region.

Specify this command as follows:

```
REPLRAND DB(dbdname) RAND(randomizername) NAREAS(int_areas)
```

DB(*dbdname*)

Specify the database name.

RAND(*randomizername*)

Specify the name of the new randomizer.

NAREAS(*int_areas*)

Optional. Specify the new number of areas when the number of areas in the database changes.

>|

Output from the TOSI client API IVP

|<The output from the TOSI client API IVP includes command responses that contain return and reason codes, and WTO messages.>|

Topics:

- [“Action command response \(TOSI client API IVP\)” on page 65](#)
- [“WTO messages \(TOSI client API IVP\)” on page 68](#)

Action command response (TOSI client API IVP)

|<The TOSI action command returns a response that consists of an action command response prefix and a DB entry section.>|

|<

Topics:

- [“Action command response prefix” on page 65](#)
- [“DB entry section” on page 66](#)
- [“REPLDMCB action command return codes and reason codes” on page 66](#)
- [“REPLRAND action command return codes and reason codes” on page 67](#)
- [“Example: Action command response” on page 68](#)

>|

|<

Action command response prefix

TOSI sends a standard response to the requesting client by using XCF. The response includes return and reason codes from TOSI and additional response data.

Table 6: Format of the action command response prefix		
Offset	Field	Description
x'00'	LL	Halfword binary length of the response, including the length of LL.
x'02'	SQ	Halfword binary output sequence number (always 1 for this release).
x'04'	FF	2-byte flag. First byte: – x'80' indicates the first output in the response (always set). – x'40' indicates the last output in the response (always set). Second byte is reserved for future use.

Offset	Field	Description
x'06'	R	1-byte binary return code. – x'00' indicates successful execution. – x'04' indicates a warning or error. – x'08' indicates a critical error. – x'12' indicates a catastrophic error.
x'07'	S	1-byte binary reason code that provides additional information about the return code.
x'08'	ID	8-byte IMS subsystem ID of the TOSI server.

>|
|<

DB entry section

The DB entry section contains 10-byte data entries. Each entry consists of an 8-byte database name followed by a 2-byte status code. The first byte of the status code is the return code, and the second byte is the reason code.

Table 7: Format of the DB entry section	
Offset	Description
x'00'	8-byte database or area name
x'08'	2-byte return code (always zero)

>|
|<

REPLDMCB action command return codes and reason codes

The following table summarizes the return codes (field indicated by R) and the reason codes (field indicated by S) included in action command response prefix for the REPLDMCB action command.

Table 8: REPLDMCB action command return codes and reason codes	
Return code	Description
x'00'	Successful completion

Return code	Description
x'08'	Critical error – x'01': Database name not found. – x'02': Database is not a DEDB. – x'03': DMB is not loaded. – x'04': ESCD is not found. – x'05': DMCB chained from ESCD is not found. – x'06': Storage obtain failed for ID=CMDE. – x'07': Storage obtain failed for ID=DWA. – x'08': Storage obtain failed for ID=DCB/DECB. – x'09': Allocation failed for the staging data set of the IMS directory. – x'0A': Open failed for the staging data set of the IMS directory. – x'0B': Incorrect DCB status for the staging data set of the IMS directory. – x'0C': BLDL macro failed for the staging data set member of the IMS directory. – x'0D': Staging data set member of the IMS directory is not a DEDB. – x'0E': Storage obtain failed for ID=READ area. – x'0F': Read failed for a staging data set member of the IMS directory; reason=READ issued after EOF. – x'10': Read failed for a staging data set member of the IMS directory; reason=entering SYNAD. – x'11': Close failed for the staging data set of the IMS directory. – x'12': Deallocation failed for the staging data set of the IMS directory.
x'48'	XCF send error See IXCMMSGO documentation for error return and reason codes in the request AWE.

>|
|<

REPLRAND action command return codes and reason codes

The following table summarizes the return codes (field indicated by R) and the reason codes (field indicated by S) included in action command response prefix for the REPLRAND action command.

Table 9: REPLRAND action command return codes and reason codes	
Return code	Description
x'00'	Successful completion
x'04'	Warning completion – x'01' : Randomizer is currently not loaded.

Return code	Description
x'08'	Critical error – x'01': Invalid resource type requested; must be 'DB' for REPLRAND. – x'02': Database name not found. – x'03': Directory (DDIR) initialization failed for the database. – x'04': Database is not a DEDB. – x'05': DMB is not loaded. – x'06': Randomizer is in use by another database. – x'07': XCI randomizer termination call error. – x'09': XCI randomizer initialization call error.
x'48'	XCF send error See IXCMMSGO documentation for error return and reason codes in the request AWE.

>|
|<

Example: Action command response

The following figure shows an example of a response when the REPLRAND action command is issued by using the TOSI client API IVP.

```

IMSTOI IVP CLIENT MODE SPECIFIED
ACTIVE IMS SYSTEM LIST FOLLOWS:
IMS1
IMS2
CONTROL STATEMENT COMMAND:
REPLRAND DB(IVPDB3) RAND(RMOD5)
RESPONSE FROM IMS=IMS1 ,SEQ= 1,LEN= 26,RC= 00,RSN= 00
IVPDB3 0000 ... ..
C304A04 001A0001 C0000000 C9C6E3F1 40404040 ....{...IMS1
C304A14 C9E5D7C4 C2F34040 IVPDB3 ..
RESPONSE FROM IMS=IMS2 ,SEQ= 1,LEN= 26,RC= 00,RSN= 00
IVPDB3 0000 ... ..
C3048FC 001A0001 C0000000 C9C6E3F2 40404040 ....{...IMS2
C30490C C9E5D7C4 C2F34040 IVPDB3 ..

```

>|

WTO messages (TOSI client API IVP)

|<TOSI issues messages that are prefixed with FOI during TOSI client API IVP job execution. >|

|<

See [“IMS Tools Online System Interface messages \(FOI\)” on page 70](#) for message descriptions.

The following figure shows examples of WTO messages that are issued by the TOSI client API IVP.

```

01.22.15 J0553020 IEF403I TOSIIVP - STARTED - TIME=01.22.15
01.22.15 J0553020 FOI510I CLIENT API VERSION 1.5.0 INITIALIZATION COMPLETE

01.22.15 J0553020 FOI528I NUMBER OF REGISTERED IMS SYSTEMS = 02. IMS=IMS1,IMS2
01.22.15 J0553020 FOI520I TOOLS ONLINE INTERFACE CLIENT API ENABLED, XCF GROUP=TOIIMS1 , XCFTOKN=01310003
01.22.15 J0553020 FOI110I ACTION INITIATED: REPLRAND DB(IVPDB3) RAND(RMOD5) ###
01.22.15 J0553020 FOI530I REQUEST COMPLETED SUCCESSFULLY
01.22.15 J0553020 FOI540I RESPONSE COMPLETED SUCCESSFULLY
01.22.15 J0553020 FOI550I RETURN RESPONSE BUFFER COMPLETED SUCCESSFULLY. IMS=IMS1
01.22.15 J0553020 FOI550I RETURN RESPONSE BUFFER COMPLETED SUCCESSFULLY. IMS=IMS2

01.22.15 J0553020 FOI550I RETURN ALL BUFFERS COMPLETED SUCCESSFULLY
01.22.15 J0553020 FOI580I TOOLS ONLINE INTERFACE CLIENT API DISABLED, XCF GROUP=TOIIMS1

01.22.15 J0553020 RKTSW01I ----- Timings (HH:MM:SS.hh) -
01.22.15 J0553020 RKTSW01I JOBNAME STEPNAME PROCSTEP STEP RC CPU (Total) CPU (TCB) CPU (SRB)
01.22.15 J0553020 RKTSW01I TOSIIVP IVPRUN 1 00 00:00:00.02 00:00:00.01 00:00:00.00
01.22.15 J0553020 IEF404I TOSIIVP - ENDED - TIME=01.22.15
01.22.15 J0553020 RKTSW01I TOSIIVP JOB TOTALS: 00:00:00.02 00:00:00.01 00:00:00.00
01.22.15 J0553020 $HASP395 TOSIIVP ENDED - RC=0000

```

>|

JCL examples for the TOSI client API IVP

|< Refer to the following examples to learn how the TOSI client API IVP can be used when deleting DEDB areas.
>|

Topics:

- [“Example 1: Delete DEDB areas and their data” on page 69](#)
- [“Example 2: Delete DEDB areas and move the data to other areas” on page 69](#)

|<

Example 1: Delete DEDB areas and their data

This example shows how to delete DEDB areas and their data by using the TOSI client API IVP to replace the DMCB and the randomizer. By using the TOSI client API IVP, you can delete DEDB areas while taking only the target areas offline, without stopping the entire database.

In this scenario, areas AREA5 and AREA6 are deleted.

1. Delete areas AREA5 and AREA6 from the DBD.
2. Run DBDGEN and ACBGEN with BUILD DBD=(dbdname) ,BLDPSB=N0, and populate the catalog.
3. Take areas AREA5 and AREA6 offline by issuing DBR commands.
4. Copy the new randomizer (with the deleted areas removed and without changing names) into the MDALIB that is used by the IMS control region.
5. Quiesce the DEDB by issuing the IMS command UPDATE DB START(QUIESCE) OPTION(HOLD).
6. Load the new DMCB and switch the pointer from the old DMCB to the new DMCB by running the TOSI client API IVP with the REPLDMCB action command.

```
//TOSIIVP1 JOB CLASS=A
//IVPRUN EXEC PGM=FOICIVP0,PARM='TOIIMS1,CLIENT'
//STEPLIB DD DISP=SHR,DSN=ITB.SFOILOAD
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
REPLDMCB DB(DEDB0001)
/*
```

7. Reload the new randomizer by running the TOSI client API IVP with the REPLRAND action command.

```
//TOSIIVP2 JOB CLASS=A
//IVPRUN EXEC PGM=FOICIVP0,PARM='TOIIMS1,CLIENT'
//STEPLIB DD DISP=SHR,DSN=ITB.SFOILOAD
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
REPLRAND DB(DEDB0001) RAND(RMOD01)
/*
```

8. Release the quiesce state by issuing the IMS command UPDATE DB STOP(QUIESCE).
9. Replace the active ACB with the staging ACB by issuing the IMS command IMPORT DEFN SOURCE(CATALOG) NAME(dbdname) OPTION(NOCHECK).
10. Delete areas AREA5 and AREA6 from the RECON.

>|

|<

Example 2: Delete DEDB areas and move the data to other areas

This example shows how to delete DEDB areas and move the data to other areas by using the TOSI client API IVP to replace the DMCB and the randomizer. By using the TOSI client API IVP, you can delete DEDB areas while taking only the target areas offline, without stopping the entire database.

In this scenario, areas AREA5 and AREA6 are deleted, and the data is moved to areas AREA3 and AREA4.

1. Delete areas AREA5 and AREA6 from the DBD.

2. Run DBDGEN and ACBGEN with BUILD DBD=(*dbdname*) ,BLDPSB=N0, and populate the catalog.
3. Take areas AREA3, AREA4, AREA5, and AREA6 offline by issuing DBR commands.
4. Unload areas AREA5 and AREA6 by using the active and pending ACB definitions in the IMS directory, and create output data sets for areas AREA3 and AREA4.
5. Delete and define areas AREA3 and AREA4.
6. Reload areas AREA3 and AREA4 by using parallel reload jobs with the pending ACBs in the IMS directory.
7. Copy the new randomizer (with the deleted areas removed and without changing names) into the MDALIB that is used by the IMS control region.
8. Quiesce the DEDB by issuing the IMS command UPDATE DB START(QUIESCE) OPTION(HOLD).
9. Load the new DMCB and switch the pointer from the old DMCB to the new DMCB by running the TOSI client API IVP with the REPLDMCB action command.

```
//TOSIIVP1 JOB CLASS=A
//IVPRUN EXEC PGM=FOICIVP0,PARM='TOIIMS1,CLIENT'
//STEPLIB DD DISP=SHR,DSN=ITB.SFOILOAD
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
REPLDMCB DB(DEDB0002)
/*
```

10. Reload the new randomizer by running the TOSI client API IVP with the REPLRAND action command.

```
//TOSIIVP2 JOB CLASS=A
//IVPRUN EXEC PGM=FOICIVP0,PARM='TOIIMS1,CLIENT'
//STEPLIB DD DISP=SHR,DSN=ITB.SFOILOAD
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
REPLRAND DB(DEDB0002) RAND(RMOD02)
/*
```

11. Release the quiesce state by issuing the IMS command UPDATE DB STOP(QUIESCE).
12. Replace the active ACB with the staging ACB by issuing the IMS command IMPORT DEFN SOURCE(CATALOG) NAME(*dbdname*) OPTION(NOCHECK).
13. Delete areas AREA5 and AREA6 from the RECON.
14. Run an image copy.
15. Start areas AREA3 and AREA4.

>|

IMS Tools Online System Interface messages (FOI)

The IMS Tools Online System Interface issues messages that can help you understand the state of the interface and help you resolve errors.

Message format

IMS Tools Online System Interface messages adhere to the following format:

```
FOInnnx
```

where:

FOI

Indicates that the message was issued by IMS Tools Online System Interface or IMS Tools Common Pauser.

nnn

Indicates the message identification number. IMS Tools Online System Interface uses message numbers in the range of 000 - 999.

x

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

Return and reason codes for client exception processing

These are the IMS Tools Online System Interface exception processing return and reason codes:

Return code

Reason code

12

01

The specified client function is not an IMS supported command verb.

02

The specified client function is not supported by IMS Tools Online System Interface.

Reason code 02 also provides the actual parsing error in the Variable Response Data Return Code. See the FOI210I message for a description of this code.

FOI001E: TOOLS ONLINE INTERFACE INIT FAILURE - REASON=*rsn*

Explanation

A failure occurred initializing the IMS Tools Online System Interface environment. The *rsn* value states the failure reason. Two modules issue the FOI001E message. Failures detected by DFSPUE0 display reasons codes 1*xx* and failures detected by FOIITK0X display reason codes 2*xx*.

Reason code

Explanation

100

IMS SSCT not found

101

IMS Release unknown

105

Error loading FOIITK0X

106

Unable to locate DISP WA

107

- Unable to allocate QSAV
- 110**
Unable to create ITASK
- 112**
Error posting ITASK
- 200**
GETMAIN failed for FOIMCB
- 201**
IMS Release not supported
- 202**
GETMAIN failed for volatile work area
- 203**
Load failed for IMS Tools Online System Interface abend intercept routine FOIAIROX
- 204**
IMS Tools Online System Interface ESTAE request failed
- 205**
GETMAIN failed for 24 BIT dynamic storage
- 210**
LOAD failed for dependent functional action module FOIDAMOX
- 215**
PROCLIB read error
- 220**
XCF group name invalid
- 240**
Load failed for XCF message exit initialization module FOIMSGIX
- 241**
Initialize XCF message exit failed
- 242**
Load failed for action message module FOIACTMX
- 250**
IXCJOIN failure

System action

The IMS Tools Online System Interface environment is not initialized and control is returned to IMS. If the failure was detected by module DFSPUE0, IMS issues abend U740. If the failure was detected by FOITK0X, IMS completes its initialization processing without IMS Tools Online System Interface.

User response

Using the provided reason code, correct the stated failure and restart IMS, which initiates IMS Tools Online System Interface processing.

FOI002I: DUPLICATE INITIALIZATION CALL IS IGNORED

Explanation

The IMS Partner Product exit routine (PPUE) issued an initialization call to initialize the IMS Tools Online System Interface environment; however, the environment is already initialized.

System action

The duplicate initialization call is ignored, and the processing continues.

User response

None. This message is informational.

FOI005W: DUPLICATE KEYWORD ENCOUNTERED, MEMBER=*m*, KW=*k*

Explanation

The IMS Tools Online System Interface PROCLIB member *m* contained a duplicate keyword *k*. The first occurrence of the keyword is accepted and subsequent occurrences are ignored.

System action

Processing continues with the accepted keyword parameter.

User response

If the accepted keyword parameter is valid, no action is required. Otherwise, correct the PROCLIB member and restart IMS.

FOI006E: KEYWORD DATA INVALID, MEMBER=*m*, KW=*k*

Explanation

The IMS Tools Online System Interface PROCLIB member *m* contained a keyword *k* which specified invalid data.

System action

Processing continues, the invalid keyword data is ignored.

User response

Correct the invalid keyword data in the PROCLIB member and restart IMS.

FOI007W: PARAMETER NOT RECOGNIZED, MEMBER=*m*, STRING=*s*

Explanation

The IMS Tools Online System Interface PROCLIB member *m* contained a parameter string *s*, which is not recognized.

System action

Processing continues, the unrecognized parameter string is ignored.

User response

Correct the unrecognized parameter string in the PROCLIB member and restart IMS.

FOI090W: XCF LEAVE FAILED, XCF GROUP=*g*, RC=*rc*, RSN=*rsn*

Explanation

During IMS Tools Online System Interface shutdown processing, the IXCLEAVE call to XCF to leave the XCF Group *g* failed. The IXCLEAVE return code *rc* and reason code *rsn* identify the failure.

System action

Processing continues, the IMS Tools Online System Interface environment did not leave the XCF group.

User response

Client programs might hang if they are waiting for IMS Tools Online System Interface response notification.
Client programs should provide for timeout processing.

FOI100I: TOOLS ONLINE INTERFACE ENABLED, XCF GROUP=*g*, CMD Security=*h***Explanation**

The IMS Tools Online System Interface environment successfully initialized and joined the XCF group *g*, regardless of whether *h* is YES or NO.

System action

Processing continues. The IMS Tools Online System Interface environment is ready to receive client requests.

User response

None. This message is informational.

FOI101I: FOI101I TOOLS ONLINE INTERFACE DISABLED, XCF GROUP=*g*, TERM=SHUTDOWN | ABEND**Explanation**

The IMS Tools Online System Interface environment has shutdown because of the specification, TERM=SHUTDOWN or IMS Tools Online System Interface encountered an abnormal termination condition, TERM=ABEND and has left the XCF group *g*.

System action

If IMS Tools Online System Interface has shutdown, the IMS Tools Online System Interface environment is no longer active. If IMS Tools Online System Interface has abnormally terminated, the IMS Tools Online System Interface environment terminates. The IMS Tools Online System Interface environment automatically re-initializes if the PROCLIB member keyword RESTART=YES is specified.

User response

None, the IMS Tools Online System Interface environment leaves the XCF group and terminates processing.

FOI102I: PSW=*psw* CODE=*code*

MODID=*id* EPA=*epa*

DATA AT *a=data*

R*xx-yy*

Explanation

The IMS Tools Online System Interface environment has encountered an abnormal termination condition. The IMS Tools Online System Interface PROCLIB member keyword DUMP=NO was specified to suppress dump processing. IMS Tools Online System Interface ESTAE processing sends diagnostic information to the system console. The diagnostic information includes the following:

- The abending PSW and the system or user completion code.
- The abending module ID (and entry point if possible).
- The failing instruction string.
- The abending general registers.

System action

IMS Tools Online System Interface continues with abnormal termination processing.

User response

None, the IMS Tools Online System Interface environment leaves the XCF group and terminates processing.

FOI105E: XCF SEND FAILURE, RC=*rc*, RSN=*rsn*, CTOK=#####

Explanation

An IMS Tools Online System Interface action module attempted to send a response message to a target client via XCF services.

The send request was failed by XCF with return and reason codes defined by RC and RSN respectively. CTOK= has the client token involved in the failing XCF SEND request.

System action

None.

User response

The return and reason codes are described in *z/OS® MVS™ Programming: Sysplex Services Reference*. Review the return and reason codes to correct any problems, and then retry the operation.

If the problem persists, contact IBM® Software Support.

FOI110I: ACTION INITIATED

Explanation

This message indicates that the command action has been received by the IMS Tools Online System Interface API. All IMS Tools Online System Interface commands cause this message to display with the command text attached at the end of the message – up to a maximum of 40 bytes.

A “###” string always appears at the end of the message to indicate 1) the end of the complete message (when less than or equal to 40 bytes), or 2) where the message truncation begins (when greater than 40 bytes).

System action

None.

User response

None. This message is informational.

FOI120I: ACTION INITIATED

Explanation

This message indicates that the command action has been received by the IMS Tools Online System Interface server. All IMS Tools Online System Interface commands cause this message to display with the command text attached at the end of the message – up to a maximum of 90 bytes.

System action

None.

User response

None. This message is informational.

FOI200I: INITIALIZATION COMPLETE

Explanation

Initialization for IMS Tools Online System Interface has successfully completed.

All IMS release dependent and independent modules have been loaded and Cell Pools (CPOOLS) have been created and initialized.

XCF SRB Message exit services have also been set up to be scheduled.

System action

IMS Tools Online System Interface initialization continues.

User response

None. This message is informational.

FOI201E: INITIALIZATION FAILED

Explanation

One of the following failures occurred:

- Loading or initialization of IMS release dependent routines failed.
- Loading or initialization of IMS release independent routines failed.
- Cell Pool creation and initialization failed.
- XCF Message exit services failed.

System action

The IMS Tools Online System Interface ITASK abends.

User response

Review the IMS control region job log for other messages associated with the abend.

Ensure that all required modules are in the //STEPLIB concatenation.

Contact IBM® Software Support if necessary and provide them with the dump and messages.

FOI203E: IMODULE LOAD FAILED FOR module, RC=*retcode*

Explanation

An error has occurred processing an IMS IMODULE LOAD service call.

The module could not be loaded. The return code *retcode* is the return code from the IMS IMODULE LOAD service call.

System action

The IMS Tools Online System Interface ITASK terminates with a user abend.

User response

Check the IMS IMODULE LOAD return codes as described in appendix about MIS system service codes in *IMS Messages and Codes, Volume 1: DFS Messages*.

Make sure all required modules are in the IMS or IMS Tools Online System Interface program libraries and sufficient region size is specified with the IMS control region startup procedure.

FOI204E: SRB SERVICES INITIALIZATION FAILED, RC=*retcode*

Explanation

An attempt to IMODULE LOAD the XCF SRB Message exit or XCF FRR routine has failed.

System action

The IMS Tools Online System Interface ITASK abends.

User response

Make sure all required modules are in IMS or IMS Tools Online System Interface program libraries and sufficient region size is specified with the IMS control region startup procedure.

FOI210I: PARSING FAILED FOR COMMAND *cccccc*, RC=*rc*, RSN=*rsn*

Explanation

One or more errors were encountered when parsing the action command *cccccc* that was issued by the client.

Message FOI210I is issued in conjunction with message FOI110I.

System action

The failing command is rejected and a message is sent back to the client.

User response

Take the appropriate action based on the return (*rc*) and reason code (*rsn*) you received. Correct the erroneous command and resubmit the transaction from the client.

Return code

Explanation

00

Parsing has completed successfully.

04

Warnings

Reason code

Explanation

514

The AREA keyword is not supported.

08

Errors

Reason code

Explanation

501

The command verb was not found in CVB.

502

Invalid command verb.

503

The GET CPOOL attempt failed.

510

The required 'DB' keyword was not found.

511

The 'DB', 'DD', 'AREA' keyword has no parameters.

512

More than one 'DB' or 'AREA' keyword was specified.

513

Too many parameters were specified for 'DB' or 'AREA' keyword.

515

LOCAL and GLOBAL parameters are mutually exclusive.

516

Duplicate keywords were found.

517

An invalid keyword was found.

518

Generic DBnames are not supported.

519

The 'ALL' keyword is not allowed or it is mixed with other database names.

520

An invalid access parameter was detected.

521

GLOBAL and ACCESS parameters are mutually exclusive.

522

Either the INTTIME or INTNUM parameter is not numeric.

523

The INTTIME parameter is not $1 \leq t \leq 3600$.

524

The INTNUM parameter is not $1 \leq n \leq 60$.

525

The required 'DD' keyword was not found.

526

The 'DD' keyword is not supported for this command.

527

Multiple DDNAMEs were specified.

529

The RAND or NAREAS parameter is too long.

530

The required 'RAND' keyword is not found.

531

Too many parameters are specified for 'RAND' or 'NAREAS' keyword.

532

The NAREAS parameter is 0 or not numeric.

12

Invalid function code

FOI212I: ERROR IN cccccccc COMMAND PROCESSOR, RC=*rc*, RSN=*rs*.

Explanation

An error was encountered when processing action command ccccccc (DBRTEST or BMPLIST).

Message FOI210I is issued in conjunction with message FOI110I.

Message FOI212I is not displayed for RC=04.

Return code

Explanation

00

Successful completion

04

Warning completion (no message is issued)

Reason code

Explanation

01

One or more DB names or area names are in error.

30

DBRTEST failed - the DB or area is used by BMP.

31

DBRTEST failed - the DB or area is used by DBCTL or CICS®.

32
DBRTEST failed - the DB or area is used by WFI.

33
OLR is active for this database or area.

34
ORS recovery is active.

08

Critical error

Reason code

Explanation

01
An invalid DB resource was encountered.

02
An invalid function code was encountered.

05
The database or area is invalid.

06
The database or area was not initialized.

08
Area not found.

09
Found full-function DB for AREA keyword.

12
The specified ALL keyword is invalid.

13
More than 6240 database or area names were found in the input.

14
The buffer is full before the end of your input.

12

Catastrophic error

Reason code

Explanation

01
CPOOL was not obtained.

48

XCF send error

See the IXCMMSGO documentation for error return and reason codes contained in the request AWE.

System action

The failing command is rejected and a message is sent back to the client.

User response

Take the appropriate action based on the return and reason code you received.

Correct the error and resubmit the transaction from the client.

FOI501E: CLIENT API INITIALIZATION FAILURE, REASON=*rsn*

Explanation

The IMS Tools Online System Interface client API initialization has failed.

The reason codes are:

100

Failed to get storage for the FOICPRMA master control block.

102

Failed to get storage for the CABVOLS volatile working storage.

103

Failed to load the FOICAPIO API service modules.

105

Failed to get the storage necessary to issue an error message.

System action

A nonzero return code is returned to the client applications.

User response

Contact IBM® Software Support.

FOI505E: CLIENT API IS UNABLE TO OBTAIN STORAGE FOR MESSAGE WORK AREA

Explanation

The IMS Tools Online System Interface has failed to obtain the storage necessary to issue a message.

System action

The API environment is terminated.

User response

Contact IBM® Software Support.

FOI510I: CLIENT API VERSION *v.r.m* INITIALIZATION COMPLETE

Explanation

The IMS Tools Online System Interface client environment has successfully initialized. *v.r.m* shows the function level of the TOSI client API that the IMS Tools product uses.

System action

Processing continues, the client is ready to process API function requests.

User response

None. This message is informational.

FOI511E: CLIENT API INITIALIZATION FAILED

Explanation

A failure occurred initializing the IMS Tools Online System Interface client environment. Message FOI512E or FOI513E will follow indicating the reason for failure.

System action

The IMS Tools Online System Interface client environment is not initialized and control is returned to the caller.

User response

Based on the accompanying error message, take appropriate action.

FOI512E: INVALID FUNCTION CODE FOR MODULE FOICINI0, FUNC=xxxx

Explanation

The IMS Tools Online System Interface client initialization module has received an invalid function code.

System action

The function code is rejected and initialization processing ends.

User response

Ensure that all of the required modules are in the //STEPLIB concatenation. Correct the error and resubmit the initialization process.

If the problem persists, contact IBM® Software Support and provide them with documentation.

FOI513E: LOAD FAILED FOR MMMMMMMM, COMP=SCCC-RS

Explanation

The IMS Tools Online System Interface client initialization module has received an invalid function code.

System action

The initialization process ends.

User response

See the Load macro information in the *z/OS® MVS™ Programming: Authorized Assembler Services Reference, Volume 3 (LLA-SDU)* for SCC-RS. Correct the error, and resubmit the initialization process.

FOI520I: TOOLS ONLINE INTERFACE CLIENT API ENABLED, XCF GROUP=ggggggggg, XCFTOKN=#####

Explanation

The IMS Tools Online System Interface client has successfully connected to the XCF group ggggggggg with client token number #####.

System action

Processing continues. The client is ready to send and receive messages to the IMS Tools Online System Interface.

User response

None. This message is informational.

FOI521I: TOOLS ONLINE INTERFACE CLIENT API DISABLED, XCF GROUP=ggggggggg

Explanation

The IMS Tools Online System Interface client failed to connect to the XCF group ggggggggg.

System action

Processing ends. The client is unable to send and receive messages to the Tools Online System Interface.

User response

Refer to message FOI522I for proper action.

FOI522I: TOOLS ONLINE INTERFACE CLIENT API JOIN FAILED FOR GROUP=ggggggggg with RC=rc, RSNC=rsnc

Explanation

The IMS Tools Online System Interface client failed to connect to the XCF group ggggggggg.

System action

Processing ends. The client is unable to send and receive messages to the Tools Online System Interface.

User response

See the IXCJOIN macro in *z/OS® MVS™ Programming: Sysplex Services Reference* for the return code (*rc*) and the reason code (*rsnc*). Correct the error, and resubmit the initialization process.

FOI523E: UNABLE TO OBTAIN WORKAREA FROM CELL POOL, RC=XX**Explanation**

The IMS Tools Online System Interface client connect function was unsuccessful in obtaining a work area for IXCJOIN processing.

System action

Processing ends. The client is unable to send and receive messages to the Tools Online System Interface.

User response

Ensure that all of the required modules are in the //STEPLIB concatenation. Correct the error, and resubmit the function request.

If the problem persists, contact IBM® Software Support and provide them with documentation.

FOI524W: CONNECT FAILED. RC=*rc*, RSN=*rsn***Explanation**

The IMS Tools Online System Interface client connect function was unsuccessful.

- Return codes:
 - 12 = Critical error
 - 16 = Catastrophic error
- Reason codes:

Table 10: FOI524W reason codes		
Reason code	Explanation	User response
201	The TOSI client application could not query the specified group name.	Ensure that the group name is correct and/or the XCF group is active.
202	The TOSI client application could not join the specified group name.	The RC/RSN for IXCJOIN is returned to the TOSI client application's response buffer. Contact IBM® software support if necessary and provide them with documentation.
203	Cell Pool Error.	Ensure that all of the required modules are in the //STEPLIB concatenation. Contact IBM® software support if necessary and provide them with documentation.

The IXCJOIN return and reason codes in this message are described in *z/OS® MVS™ Programming: Sysplex Services Reference*. Review the return code and the reason code for proper action, correct the problem if possible, and try the operation again. Contact IBM® software support if necessary and provide them with documentation.

System action

Processing ends. Control is returned to the caller.

User response

Correct the error, and resubmit the function request.

FOI525I: TOSI CLIENT AOP INTERFACE ENABLED FOR PLEX=*plexname*, IMS=*imsid*, SCIJOB=*scijobname*, SCINAME=*sciname*

Explanation

The IMS Tools Online System Interface has successfully established a processing environment for type-2 commands.

System action

Processing continues. The IMS Tools Online System Interface environment is ready to receive client requests.

User response

None. This message is informational.

FOI526I: IMS COMMAND RACF CLASS IS *racfclass*

Explanation

The IMS Tools Online System Interface will use the *racfclass* class for command authorization.

System action

Processing continues. The IMS Tools Online System Interface environment is ready to receive client requests.

User response

None. This message is informational.

FOI527E: USER NOT AUTHORIZED TO ISSUE COMMAND

Explanation

When the IMS Tools Online System Interface passed the command to the Operations Manager (OM) component, OM rejected the command because the user is not authorized to issue commands to OM.

System action

Processing continues. IMS Tools Online System Interface issues a nonzero return code to the client application.

User response

Check that the user's command authorization setup is accurate.

FOI528I: NUMBER OF REGISTERED IMS SYSTEMS=*nn*. IMS=*ssid*,*ssid*,...

Explanation

This message shows the number of IMS systems in the XCF group. Up to 15 IMS IDs are listed in the message.

System action

Processing continues.

User response

None. This message is informational.

FOI530I: REQUEST COMPLETED SUCCESSFULLY

Explanation

The IMS Tools Online System Interface client was successful in sending a message to every IMS Tools Online System Interface element in the server list.

System action

Processing continues.

User response

None. This message is informational.

FOI531W: REQUEST COMPLETED RC=*rc*, RSN=*rsn***Explanation**

The IMS Tools Online System Interface client was successful in sending a message to IMS Tools Online System Interface element in the server list, but one more returned a warning condition.

System action

Processing continues.

User response

Review the RC/RSN for proper action.

- Return code:
 - 4 = Warning
- Reason codes:

<i>Table 11: FPO531W reason codes</i>		
Reason code	Explanation	User response
100	The TOSI client application received a nonzero return code while sending an XCF message to the TOSI server elements in the server list.	Examine prior error messages and correct them if possible. Contact IBM® Software Support if necessary and provide them with documentation.
101	The TOSI client application received a nonzero return code while sending an XCF message to at least one of the TOSI server elements in the server list but ONERROR = CONTINUE allowed the operation to continue processing.	Examine prior error messages and correct them if possible. Contact IBM® Software Support if necessary and provide them with documentation.
102	ONERROR=STOP was specified by the TOSI client and at least one command processed by the Operations Manager (OM) has failed.	Examine prior error messages and correct them if possible. Contact IBM® Software Support if necessary and provide them with documentation.
103	ONERROR=CONTINUE was specified by the TOSI client and at least one command processed by the Operations Manager (OM) has failed.	Examine prior error messages and correct them if possible. Contact IBM® Software Support if necessary and provide them with documentation.

FOI532E: REQUEST FAILED RC=*rc*, RSN=*rsn***Explanation**

The IMS Tools Online System Interface client was not successful in sending a message to IMS Tools Online System Interface elements in the server list.

System action

Processing continues.

User response

Contact IBM® Software Support and provide them with the reason code.

- Return code:

- 8 = Critical error

– Reason codes:

<i>Table 12: FOI532E reason codes</i>		
Reason code	Explanation	User response
200	The TOSI client application received an error with the XCF environment while sending an XCF message to the TOSI server elements in the server list.	Try the operation again after allowing some time for the condition to clear. Contact IBM® Software Support if necessary and provide them with documentation.
300	The TOSI client application encountered an error with the TOSI server list.	Internal error. Contact IBM® Software Support and provide them with documentation.
310	The TOSI client application specified an incorrect API TYPE.	Internal error. Contact IBM® Software Support and provide them with documentation.
311	There is no IMS system registered with the Operations Manager (OM) component.	Make sure that at least one IMS system is active and has joined the IMSplex.
312	There is a problem with the text or length of the command that was sent by the TOSI client.	Internal error. Contact IBM® Software Support and provide them with documentation.
313	The SAF AUTH call failed.	Internal error. Contact IBM® Software Support and provide them with documentation.
314	The SAF CREATE call failed.	Internal error. Contact IBM® Software Support and provide them with documentation.
315	The SAF LIST call failed.	Internal error. Contact IBM® Software Support and provide them with documentation.
316	The SAF UNLIST call failed.	Internal error. Contact IBM® Software Support and provide them with documentation.
317	The SAF DELETE call failed.	Internal error. Contact IBM® Software Support and provide them with documentation.
318	Failed to get the CPOOL storage that is necessary for SAF processing.	Internal error. Contact IBM® Software Support and provide them with documentation.

FOI533I: COMMAND EXECUTED. OM RC=XXXXXXXX, RSN=XXXXXXXX

Explanation

The IMS Tools Online System Server submitted an IMS type-2 command by using the CSLOMCMD interface, and then Operation Manager (OM) returned a nonzero return code. A return code and reason code in the message are issued for your information.

System action

Processing continues.

User response

Inspect the job log. If the job fails, find the OM return code and reason code in *IMS Messages and Codes, Volume 4: IMS Component Codes* for details about the failure. If the error is not caused by user set up, contact IBM® Software Support and send them your job log.

FOI534E: SAF *service* ERROR SAFRC=*rc*, SAFRSN=*rsn*, PRC=*rc*, PRSN=*rsn***Explanation**

An SAF service error was received by the IMS Tools Online System Interface.

System action

Processing continues. The IMS Tools Online System Interface environment is ready to receive client requests.

User response

Check whether the SAF errors are accurate. Consult your SAF service documentation for an explanation of the return and reason codes.

FOI540I: RESPONSE COMPLETED SUCCESSFULLY**Explanation**

The IMS Tools Online System Interface client was successful in receiving a message from every IMS Tools Online System Interface element in the server list.

System action

Processing continues.

User response

None. This message is informational.

**FOI541I: RESPONSE TIMEOUT VALUE NOT NUMERIC. TIMER=*hhmmss.th*
KEYWORD IGNORED****Explanation**

The IMS Tools Online System Interface client received an invalid TIMER value.

System action

Processing continues with no TIMER value.

User response

For RESPONSE TIMEOUT processing, ensure that the TIMER= format is the same decimal format as DINTVL of the STIMER macro.

FOI541W: RESPONSE COMPLETED RC=*rc*, RSN=*rsn***Explanation**

The TOSI client application was successful in the receive processing of a message from the TOSI server elements in the server list, but one more returned a warning condition.

System action

Processing continues.

User response

Review the RC/RSN and correct the problem if possible. Contact IBM® Software Support if necessary and provide them with documentation.

- Return code:
 - 4 = Warning

- Reason codes:

<i>Table 13: FOI541W reason codes</i>		
Reason code	Explanation	User response
100	The TOSI client application processed the RESPONSE request successfully; however, there were no messages to process.	If a response message is expected, then try the operation again with the TIMER parameter. Contact IBM® Software Support if necessary and provide them with documentation.
101	The TOSI client application processed the RESPONSE request successfully; however, there were no messages to process in the time that was specified.	If a response message is expected, then ensure that the TOSI server component is active and then try the operation again. Contact IBM® Software Support if necessary and provide them with documentation.
102	The TOSI client application processed the RESPONSE request successfully; however, there were no messages to process in the current cycle.	If a response message is expected, then try the operation again. Contact IBM® Software Support if necessary and provide them with documentation.

FOI542E: RESPONSE FAILED. RC=rc, RSN=rsn

Explanation

The IMS Tools Online System Interface client was not successful in sending a message to IMS Tools Online System Interface elements in the server list.

System action

Processing continues.

User response

Review the RC/RSN for proper action and correct the error if possible or contact IBM® Software Support if necessary and provide them with documentation.

- Return code:
 - 8 = Critical
- Reason codes:

<i>Table 14: FOI542E reason codes</i>		
Reason code	Explanation	User response
200	The TOSI client application was unable to establish timer services.	Try the operation again. Contact IBM® Software Support if necessary and provide them with documentation.
201	The TOSI client application encountered an error when setting timer services with the specified interval.	Try the operation again. Contact IBM® Software Support if necessary and provide them with documentation.
202	The TOSI client application encountered an error when setting timer services with the remaining time interval.	Try the operation again. Contact IBM® Software Support if necessary and provide them with documentation.
203	The TOSI client application encountered an error with the timer interval returned from timer services.	Try the operation again. Contact IBM® Software Support if necessary and provide them with documentation.

Reason code	Explanation	User response
204	The TOSI client application encountered an error during termination of timer services.	For recursive messages with this reason code, contact IBM® Software Support if necessary and provide them with documentation.
300	The TOSI client application encountered an error with the TOSI server list.	Try the operation again. Contact IBM® Software Support if necessary and provide them with documentation.

FOI550I: RETURN RESPONSE BUFFER COMPLETED SUCCESSFULLY. IMS=ssid

Explanation

The IMS Tools Online System Interface client was successful in returning all cell pool storage for processing.

System action

Processing continues.

User response

None. This message is informational.

FOI551W: RETURNBUF COMPLETED. RC=rc, RSN=rsn, IMS=ssid

Explanation

The IMS Tools Online System Interface client encountered a warning in returning cell pool storage.

System action

Processing continues.

User response

Review the RC/RSN for proper action and correct the error if possible, otherwise contact IBM® Software Support and provide them with documentation.

- Return code:
 - 4 = Warning
- Reason codes:

Table 15: FOI551W reason codes		
Reason code	Explanation	User response
100	The TOSI client application could not process the RETURNBUF request because an address for the buffer was not provided.	Try the operation again with a valid address.

FOI552E: RETURNBUF FAILED. RC=rc, RSN=rsn, IMS=ssid

Explanation

The IMS Tools Online System Interface client encountered an error in returning cell pool storage.

System action

Processing continues.

User response

Review the RC/RSN for the proper action and correct the error if possible, otherwise contact IBM® Software Support and provide them with documentation.

- Return code:

- 8 = Critical
- Reason codes:

<i>Table 16: FOI552E reason codes</i>		
Reason code	Explanation	User response
300	The TOSI client application encountered an internal error while processing the RETURNBUF function.	Try the operation again or contact IBM® Software Support if necessary and provide them with documentation.

FOI560I: QUERYGROUP COMPLETED SUCCESSFULLY

Explanation

The IMS Tools Online System Interface client was successful in querying every IMS Tools Online System Interface in the XCF group and generating a server list.

System action

Processing continues.

User response

None. This message is informational.

FOI561W: QUERYGROUP COMPLETED RC=*rc*, RSN=*rsn*

Explanation

The IMS Tools Online System Interface client was successful in querying the XCF group.

System action

Processing continues, but a server list might not have been generated.

User response

Review the RC/RSN for the proper action and correct the error if possible, otherwise contact IBM® Software Support and provide them with documentation.

- Return code:
 - 4 = Warning
- Reason codes:

<i>Table 17: FOI561W reason codes</i>		
Reason code	Explanation	User response
100	The TOSI client application processed the QUERYGROUP request but the group did not return any members.	Try the operation again.
101	The TOSI client application processed the QUERYGROUP request but the server list is truncated.	Try the operation again.
102	The TOSI client application could not process the QUERYGROUP because there was an active server list detected.	Free the active server list by issuing a RETURNBUF BUFFER=ALL command and then try the operation again.

Reason code	Explanation	User response
103	The TOSI client application could not process the QUERYGROUP because the group name was not provided.	Try the operation again with a group name.

FOI562E: QUERYGROUP FAILED RC=*rc*, RSN=*rsn*

Explanation

The IMS Tools Online System Interface client was not successful in querying the XCF group.

System action

Processing continues, but a server list is not generated.

User response

Use the XCF display commands to ensure that the XCF group is defined in the Sysplex.

See the FOI563E message for details of the IXCQUERY failure condition and then retry the operation. If the problem persists, contact IBM® Software Support.

FOI563E: QUERYGROUP IXCQUERY FAILED RC=*rc*, RSN=*rsn*

Explanation

The IMS Tools Online System Interface client was not successful in querying the XCF group.

System action

Processing continues, but a server list is not generated.

User response

The return and reason codes are described in the *z/OS® MVS™ Programming: Authorized Assembler Services Reference, Volume 2 (EDT-IXG)*. Review the return and reason codes to correct any problems, and then retry the operation.

If the problem persists, contact IBM® Software Support.

FOI570I: DISCONNECT COMPLETED SUCCESSFULLY

Explanation

The IMS Tools Online System Interface client has successfully disconnected from the XCF group.

System action

Processing continues.

User response

None. This message is informational.

FOI571W: DISCONNECT COMPLETED RC =*rc*, RSN=*rsn*

Explanation

The IMS Tools Online System Interface client disconnected from the XCF group with a warning condition.

System action

Processing continues.

User response

Review the RC/RSN and correct the error if possible, otherwise contact IBM® software support and provide them with documentation.

- Return code:
 - 4 = Warning

- Reason codes:
 - 701 – The TOSI client application processed the DISCONNECT request but detected an active server list.

FOI572E: CLIENT API XCF LEAVE FAILED, XCF GROUP=*ggggggggg* RC=*rc*, RSN=*rsn*

Explanation

The IMS Tools Online System Interface client could not disconnected from the XCF group.

System action

Processing continues.

User response

Review the RC/RSN, correct the error if possible, and contact IBM® Software Support if necessary and provide them with documentation.

- Return code:
 - 16 = Critical
- Reason codes:

Table 18: FOI572E reason codes		
Reason code	Explanation	User response
703	The TOSI client application encountered an internal error while obtaining storage for the DISCONNECT request.	Try the operation again. Contact IBM® Software Support if necessary and provide them with documentation.

FOI573I: TOI CLIENT AOP INTERFACE TERMINATED FOR PLEX=*plexname* IMS=*imsid* SCIJOB=*scijobname* SCINAME=*sciname*

Explanation

The IMS Tools Online System Interface terminated the environment for type-2 commands.

System action

Processing continues.

User response

None. This message is informational.

FOI580I: TOOLS ONLINE INTERFACE CLIENT API DISABLED, XCF GROUP=*ggggggggg*

Explanation

The IMS Tools Online System Interface client has successfully been disabled and control is returned to the caller.

System action

Processing continues.

User response

None. This message is informational.

FOI581W: DELETING *modxname* FAILED, RC=*rc*

Explanation

The IMS Tools Online System Interface client termination module could not delete the module.

System action

Termination processing continues.

User response

None.

FOI582W: UNABLE TO OBTAIN DYNAMIC STORAGE, RC=rc**Explanation**

The IMS Tools Online System Interface client was not successful in obtaining storage for termination processing.

System action

Processing to disable the client environment was ended.

User response

See the section about the STORAGE macro in the *z/OS® MVS™ Programming: Authorized Assembler Services Reference, Volume 4 (SET-WTO)*. Correct the error, and resubmit the initialization process.

FOI583W: UNABLE TO RELEASE STORAGE, RC=rc**Explanation**

The IMS Tools Online System Interface client was not successful in releasing storage obtained for termination processing.

System action

Termination processing continues.

User response

None.

FOI800E: |<OPEN FAILED. DDNAME=ddname>|**Explanation**

|<The IMS Tools Online System Interface client API installation verification program (TOSI client API IVP, FOICIVP0) failed to open the data set that is specified by the *ddname* DD statement. >|

System action

|<Processing ends with a return code of 12.>|

User response

|<Ensure that a valid DD statement is included in the step and rerun the job.>|

FOI996I: SHUTDOWN AWE ENQUEUE FAILED**Explanation**

When the IMS Tools Online System Interface FRR (Function Recovery Routine) for the XCF message exit gets control from MVS™, it tries to enqueue an AWE (asynchronous work element) to IMS Tools Online System Interface for shutdown processing. FOI996I is issued if the enqueue fails.

System action

Processing continues.

User response

Client programs might hang if they are waiting for IMS Tools Online System Interface response notification. Client programs should provide for timeout processing. Notify the client program administrator that you received this error message.

FOI997E: SDUMP FAILED FOR ABEND *abend*, RC=*retcode*, RSN=*rsncode*

Explanation

The IMS Tools Online System Interface XCF SRB Message exit error recovery attempted to issue an SDUMP macro or service to capture diagnostic information for the ABEND *abend* in the message. The SDUMP macro or service returned a nonzero return code *retcode*.

rsncode is the SDUMP reason code.

System action

The XCF SRB Message exit is terminated. The SDUMP failure has no impact on the IMS Tools Online System Interface ITASK.

User response

Additional information about SDUMP return codes and reason codes can be found in the *z/OS® MVS™ Programming: Authorized Assembler Services Reference, Volume 3 (LLA-SDU)*.

If the problem persists, contact IBM® Software Support.

FOI998I: DAE SUPPRESSED DUMP FOR ABEND *abend*

Explanation

The IMS Tools Online System Interface XCF SRB Message exit error recovery attempted to issue an SDUMP macro or service to capture diagnostic information for the ABEND *abend* in the message. The SDUMP was suppressed by MVS™ dump analysis and elimination (DAE).

IMS Tools Online System Interface SRB recovery routines gather symptom string data related to an abend and provide this data to MVS™ when an SDUMP is requested. If DAE is enabled, MVS™ suppresses duplicate (symptom strings identical to previously captured) dumps.

DAE is controlled through the MVS™ ADYSETxx PARMLIB member and the MVS™ SET DAE command. For details on specifying DAE options, see *z/OS® MVS™ Initialization and Tuning Reference*.

System action

The SDUMP is skipped. The generated dump is suppressed if its symptom strings match a previous dump, and if the current DAE setting in ADYSETxx is set to either SUPPRESS or SUPPRESSALL.

User response

None. This message is informational.

FOI999E: IMS XCF MESSAGE EXIT RTNE ABEND *abend*

Explanation

IMS Tools Online System Interface XCF Message exit error recovery detected an ABEND *abend* in component IMS Tools Online System Interface and subcomponent XCF Message exit RTNE.

System action

The XCF SRB Message exit error recovery attempts to generate a system dump to capture diagnostic data.

User response

Retain the generated system dump and contact IBM® Software Support.

IMS Tools Online System Interface abend codes

The IMS Tools Online System Interface issues user abend codes that can help you with troubleshooting.

For each abend code, the following information is provided where applicable:

Explanation:

The Explanation section explains what the abend code means, why it occurred, and what its variable entry fields are (if any).

System action:

The System action section explains what the system will do next.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

0200:**Explanation**

A nonrecoverable and possible installation error occurred in the IMS Tools Online System Interface XCF Message exit routine. The abend reason codes further describe the reasons for the error:

X'10'

Unable to obtain a Short-Stack Block (SSBL) from the CPOOL.

X'30'

Unable to obtain the requested message area from the CPOOL.

X'40'

An XCF IXCMSGI macro or service returned a nonzero return code.

X'50'

The DFSAW FUNC=ENQ failed when an attempt was made to enqueue the AWE with the input message buffer received from the client to the Tools Online System Interface Q-HDR.

System action

IMS Tools Online System Interface abnormally ends IMS command processing.

User response

Review the IMS control region job log for other messages that are associated with this abend. Correct the error if possible. If the problem persists, contact IBM® Software Support if necessary and provide them with the dump and messages.

400: Reason Code=10**Explanation**

Internal error indicating the requested cell pool (CPOOL) size is not available.

System action

IMS Tools Online System Interface abnormally ends IMS command processing.

User response

Update the Cell Pool Manager accordingly to support the requested pool size.

400: Reason Code=20**Explanation**

Internal error indicating the Cell Pool Manager is not initialized.

System action

IMS Tools Online System Interface abnormally ends IMS command processing.

User response

Determine the cause for the Cell Pool Manager initialization failure.

4005:

Explanation

The IMODULE LOAD of IMS dependent or independent routines failed during IMS Tools Online System Interface initialization. This user abend is preceded by messages FOI201E, FOI203E, or FOI204E.

The subcodes describe the nature of the failure:

X'133'

An error occurred loading IMS dependent or independent routines.

X'151'

The LOAD and initialization of SRB routines failed.

System action

See the system action of the associated message.

User response

See the user response of the associated message.

IMS Tools Catalog Interface reference

IMS Tools Catalog Interface allows IMS Tools products to communicate with the IMS Catalog.

Topics:

- [“IMS Tools Catalog Interface messages \(GEX3\)” on page 96](#)

IMS Tools Catalog Interface messages (GEX3)

IMS Tools Catalog Interface is a common interface used by IMS Tools products to process the IMS catalog directory. IMS Tools Catalog Interface issues messages that can help you understand the state of the interface and help you resolve errors.

Message format

IMS Tools Catalog Interface messages adhere to the following format:

```
GEX3nnn꜀
```

where:

GEX3

Indicates that the message was issued by IMS Tools Catalog Interface.

nnn

Indicates the message identification number.

꜀

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message can include the following variables that are useful for problem analysis:

function

Indicates requested function: OPEN, CLOSE, GET, or LIST

csect_name

Indicates the CSECT name that called the IMS Tools Catalog Interface

msgmark

Indicates an identifier for problem analysis

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

GEX3510E: DFS3CATQ FAILED WITH RC=*rc* RSN=*rsn* FUNC=*function* IN *csect_name msgmark*.

Explanation

IMS Catalog API (DFS3CATQ) failed.

- *rc* indicates the return code (Hexadecimal)
- *rsn* indicates the reason code (Hexadecimal)

System action

IMS Tools Catalog Interface stops all processing.

User response

When the message shows OPEN, GET, or LIST, take the following actions.

- If the message shows FUNC=OPEN, check that the correct IMS Catalog is specified to the job.
If the IMS Catalog specification is incorrect, correct the error and rerun the job.
- If the message shows FUNC=GET or LIST, insufficient region size might cause this problem.
Increase the REGION= *size* in the EXEC statement of the JCL and rerun the job.
- If the problem persists, contact IBM® Software Support.

GEX3520E: TOOLS CATALOG INTERFACE FAILED. FUNC=*function* IN *csect_name msgmark*

LOAD FAILED WITH SYSTEM COMPLETION CODE=*sc* AND RSN=*rsn*. MEMBER=*member*

Explanation

The LOAD macro failed with system completion code *sc* and reason code *rsn*.

member indicates the name of the member that caused the failure.

System action

IMS Tools Catalog Interface stops all processing.

User response

Refer to the *z/OS® MVS™ Programming: Assembler Services Reference* to determine the meaning of the return code and reason code.

Take the following actions:

- If the STEPLIB data sets do not contain the correct member, correct the error and rerun the job.
- Increase the region size in the REGION= parameter of the EXEC statement in the JCL, and rerun the job.
- If the problem persists, contact IBM® Software Support.

GEX3521E: TOOLS CATALOG INTERFACE FAILED. FUNC=*function* IN *csect_name msgmark*

GETMAIN FAILED WITH RC=*rc* SIZE=*size*.

Explanation

GETMAIN failed with system completion code *rc*.

size indicates the requested storage size.

System action

IMS Tools Catalog Interface stops all processing.

User response

Take the following actions:

- Increase the region size in the REGION= parameter of the EXEC statement in the JCL, and rerun the job.
- If the problem persists, contact IBM® Software Support.

GEX3522E: TOOLS CATALOG INTERFACE FAILED. FUNC=*function* IN *csect_name msgmark*

NAME/TOKEN SERVICE *service* FAILED. NAME=*nametoken* RC=*rc*

Explanation

The NAME/TOKEN service failed with system completion code *rc*.

service indicates the service name and *nametoken* indicates the name/token.

System action

IMS Tools Catalog Interface stops all processing.

User response

Contact IBM® Software Support.

GEX3523E: TOOLS CATALOG INTERFACE FAILED. FUNC=*function* IN *csect_name msgmark*

DYNAMIC DEALLOCATION FAILED FOR DD=*ddname* RC=*rc* AND RSN=*rsn*.

Explanation

The IMS directory data set could not be deallocated. This message contains the following information:

- *rc* indicates the return code.
- *rsn* indicates the reason code.
- *ddname* indicates the name of the DD for which the deallocation failed.

System action

IMS Tools Catalog Interface stops all processing.

User response

Contact IBM® Software Support.

GEX3540E: TOOLS CATALOG INTERFACE FAILED. FUNC=*function* IN *csect_name msgmark*

IMS DIRECTORY DATA SET WAS NOT OPENED.

Explanation

IMS directory data set was not opened.

System action

IMS Tools Catalog Interface stops all processing.

User response

Contact IBM® Software Support.

GEX3541E: TOOLS CATALOG INTERFACE FAILED. FUNC=*function* IN *csect_name msgmark*

CLOSE PROCESS IS IN PROGRESS.

Explanation

Closing IMS directory data set failed because it was in progress.

System action

IMS Tools Catalog Interface stops all processing.

User response

Contact IBM® Software Support.

GEX3542E: TOOLS CATALOG INTERFACE FAILED. FUNC=*function* IN *csect_name msgmark*

ABEND OCCURED IN THE PREVIOUS TOOLS CATALOG INTERFACE PROCESSING.

Explanation

ABEND had occurred in the IMS Catalog Interface task.

System action

IMS Tools Catalog Interface stops all processing.

User response

Contact IBM® Software Support.

IMS Tools Resource Manager Structure utility reference

The Resource Manager Structure utility is a batch utility that queries or deletes resources in the Resource Manager (RM) structure used by the IMS systems that are running in an IMSplex.

The Resource Manager Structure utility accesses resources based on the specified resource types and names by using the IMS Common Service Layer (CSL). It then writes the results in a report.

You cannot delete specific resources from the Resource Manager (RM) structure by using the IMS base product; the resources are cleaned up automatically as an internal process. The Resource Manager Structure utility assists you to identify and delete resources that you no longer want in the Resource Manager.

Information about the Resource Manager Structure utility is provided in the following topics:

Topics:

- [“Running the Resource Manager Structure utility” on page 100](#)
- [“EXEC and DD statements for the Resource Manager Structure utility” on page 101](#)
- [“Control statements for the Resource Manager Structure utility” on page 102](#)
- [“Output from the Resource Manager Structure utility” on page 105](#)
- [“JCL examples for the Resource Manager Structure utility” on page 107](#)
- [“Resource Manager Structure utility messages \(GEXS\)” on page 108](#)
- [“Resource Manager Structure utility return codes” on page 116](#)

Running the Resource Manager Structure utility

The Resource Manager Structure utility runs as a standard z/OS® batch job. To query or delete resources in the resource structure and to write the results in a report, code the Resource Manager Structure utility JCL and run the job.

Procedure

1. Write the EXEC and DD statements.
For the format of the EXEC statement and the list of DD statements, see [“EXEC and DD statements for the Resource Manager Structure utility” on page 101](#).
2. Code the control statement in the GEXSYSIN data set.
For the syntax of the control statement, see [“Control statements for the Resource Manager Structure utility” on page 102](#).

The following figure shows a JCL example for the Resource Manager Structure utility:

Figure 7: JCL example for the Resource Manager Structure utility

```
//GEXSUTL0 JOB class="A"  
//PGM1 EXEC PGM=GEXSUTL0,PARM='FUNC=RMSU'  
//STEPLIB DD DISP=SHR,DSN=ITB.SGLXLOAD  
// DD DISP=SHR,DSN=ITB.SHKTLOAD  
// DD DISP=SHR,DSN=IMS.SDFSRESL  
//GEXSJRNL DD SYSOUT=*  
//GEXSRPRT DD SYSOUT=*  
//GEXSYSIN DD *  
FUNC(QUERY)  
PLEXNAME(IMSPX)  
TRANSACTION(DFS*)  
LTERM(LTERM00*)  
/*
```

3. Run the Resource Manager Structure utility job step to generate a report. Ensure that the return code is 0.
For an example of the report, see [“Output from the Resource Manager Structure utility” on page 105](#).

EXEC and DD statements for the Resource Manager Structure utility

You must specify an EXEC statement and DD statements that define the input and output data sets in your JCL.

Topics:

- [“EXEC statement” on page 101](#)
- [“Summary of DD statements” on page 101](#)
- [“DD statements for input” on page 101](#)
- [“DD statements for output” on page 101](#)

EXEC statement

The EXEC statement must be in the following format:

```
//STEP EXEC PGM=GEXSUTL0,PARM='FUNC=RMSU'
```

The EXEC statement in the batch JCL contains one keyword specification in the PARM field: FUNC=.

FUNC

Identifies which Common Services is to be invoked.

To invoke the Resource Manager Structure utility, specify 'FUNC=RMSU'.

Summary of DD statements

DD statements of the Resource Manager Structure utility determine the input and output data sets and specify how to run this utility.

The following table summarizes the DD statements for the Resource Manager Structure utility.

Table 19: DD statements for the Resource Manager Structure utility				
DD name	Use	Format	Can be dynamically allocated?	Required or optional?
STEPLIB	Input	PDS RECFM U	No	Required
GEXSYSIN	Input	RECFM=FB, LRECL=80	No	Required
GEXSJRNL	Output	RECFM=FBA, LRECL=133	Yes	Optional
GEXSRPRT	Output	RECFM=FBA, LRECL=133	Yes	Optional

DD statements for input

The following input DD statements are used for the Resource Manager Structure utility.

STEPLIB

This DD statement is required. It specifies the load module library of IMS Tools Base (SGLXLOAD, SHKTLOAD) and IMS.SDFSRESL.

GEXSYSIN

This DD statement is required. It specifies the input control statement that controls the Resource Manager Structure utility functions.

The GEXSYSIN DD statement can be coded as a standard SYSIN file, a sequential data set, or a PDS member. LRECL=80 is required for the DCB of this data set.

Up to 800 input control statements can be specified per execution. To process more control statements, divide the input into multiple batches and run the utility separately for each batch.

For details about coding the GEXSYSIN DD statement, see [“Control statements for the Resource Manager Structure utility” on page 102](#).

DD statements for output

The following output DD statements are used for the Resource Manager Structure utility.

GEXSJRNL

This DD statement is optional. It specifies the processing log output data set, which stores processing messages that are issued by the Resource Manager Structure utility.
If you do not specify this DD statement, the Resource Manager Structure utility dynamically allocates the data set by using SYSOUT=*

GEXSRPRT

This DD statement is optional. It specifies the data set in which information about the RM resources that were queried or deleted is to be written.
If you do not specify this DD statement, the Resource Manager Structure utility dynamically allocates the data set by using SYSOUT=*

Control statements for the Resource Manager Structure utility

The control statement for the Resource Manager Structure utility controls the functions of this utility.

The control statement must be specified in the GEXSYSIN data set. This control statement data set generally resides in the input stream. However, it can also be defined as a sequential data set or as a member of a partitioned data set. It must contain 80-byte, fixed-length records. The block size, if coded, must be a multiple of 80.

Up to 800 control statements can be specified per execution.

Topics:

- [“Format of the control statement” on page 102](#)
- [“Summary of keywords” on page 102](#)
- [“Description of keywords” on page 103](#)

Format of the control statement

The control statement includes a set of keywords, parameters, and comments that are specified in the GEXSYSIN data set.

Keywords

A keyword defines an option for the Resource Manager Structure utility. Keywords can be specified in any order, and any two adjacent keywords must be separated by a blank or a comma. Each keyword has one associated parameter.

Parameters

A parameter defines a value for the associated keyword. All keywords require only one parameter. Parameters must be character or numeric values.

A keyword and the associated parameter are separated by parentheses. For example,

```
keyword(parameter)
```

Comments

You can include comments in the GEXSYSIN data set by marking a line with an asterisk (*) in column 1. The Resource Manager Structure utility ignores the comment line when analyzing the control statement in the GEXSYSIN data set.

Summary of keywords

The following table summarizes required keywords of the control statement for the Resource Manager Structure utility. None of these keywords has a default value.

Table 20: Required keywords for the Resource Manager Structure utility	
Keyword	Description
FUNC	Specifies whether you want to query or delete the indicated Resource Manager structure.
PLEXNAME	Specifies the 5-character IMSplex name.

The following table summarizes optional keywords of the control statement for the Resource Manager Structure utility. None of these keywords has a default value.

Table 21: Optional keywords for the Resource Manager Structure utility	
Keyword	Description
ALL_RESOURCES	Specifies that all resource types handled by this utility are to be queried when FUNC(QUERY) is specified. This keyword cannot be specified with any other resource keywords. For a list of resource keywords, see “Resource keywords” on page 104 .
APPCDESC	Specifies the names of the APPC descriptor resources to be queried or deleted.
AREA	Specifies the names of the DEDB area resources to be queried or deleted.
CPICTRAN	Specifies the names of the CPIC transaction resources to be queried or deleted.
DATABASE	Specifies the names of the database resources to be queried or deleted.
DYNUSER	Specifies the names of the dynamic user resources to be queried or deleted.
IMSPLEX	Specifies the names of the IMSplex resources to be queried or deleted.
LTERM	Specifies the names of the logical terminal (LTERM) resources to be queried or deleted.
RTMSNAME	Specifies the names of the remote MSNAME resources to be queried or deleted.
RTNODE	Specifies the names of the remote node resources to be queried or deleted.
SERPROG	Specifies the names of the scheduled serial program resources to be queried or deleted.
STNUSER	Specifies the names of the static node user resources to be queried or deleted.
TRANSACT	Specifies the names of the transaction resources to be queried or deleted.
USERID	Specifies the names of the user ID resources to be queried or deleted.

Description of keywords

The following keywords are available for the control statement.

FUNC

This required keyword specifies whether to query or delete resources in the resource structure.

Format:

```
►► FUNC( QUERY ) ►►
      DELETED
```

QUERY

Extracts the resources that meet the selection criteria specified by the resource keywords, and writes the results in the Resource Manager Resource Information report.

DELETE

Deletes the resources specified by the resource keywords, and writes the results in the Resource Manager Resource Information report.

There is no default.

PLEXNAME

This required keyword specifies the name of the IMSplex whose resource structure is to be accessed by this utility.

Format:

```
►► PLEXNAME( implex_name ) ►►
```

implex_name

Specify a 1- to 5-character IMSplex name.

There is no default.

APPCDESC

AREA

CPICTRAN

DATABASE

DYNUSER

IMSPLEX

LTERM

RTMSNAME

RTNODE

SERPROG

STNUSER

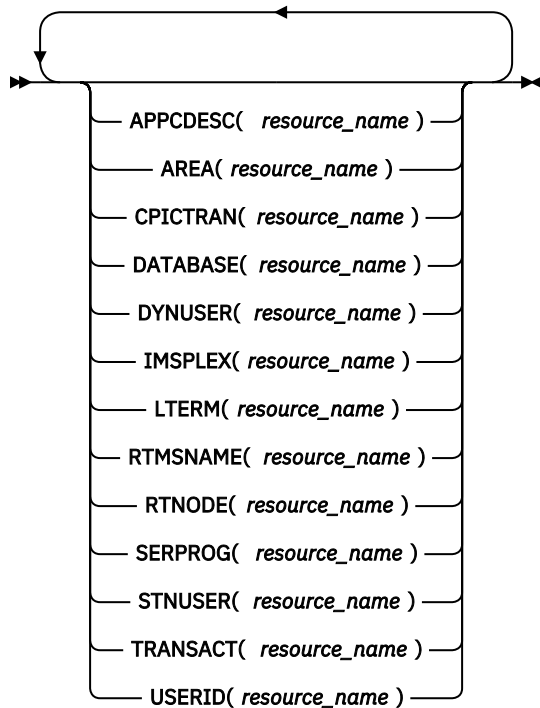
TRANSACT

USERID

These optional keywords are resource keywords that you use to specify which resources types you want to process. The resource keywords specify the names of the resources to be queried or deleted. Although these keywords are optional, at least one of them must be specified. Also, the same keyword can be specified repeatedly.

Table 22: Resource keywords	
Keyword	Description
APPCDESC	APPC descriptor
AREA	DEDB area
CPICTRAN	CPIC transaction
DATABASE	Database
DYNUSER	Dynamic user
IMSPLEX	IMSplex
LTERM	Logical terminal (LTERM)
RTMSNAME	Remote MSNAME
RTNODE	Remote node
SERPROG	Scheduled serial program
STNUSER	Static node user
TRANSACT	Transaction
USERID	User ID

Format:



resource_name

Specify a 1- to 11-character resource name.

When FUNC (QUERY) is specified, the resource name can include wildcards (* and %). If a wildcard is used, all the resources that match that wildcard are returned.

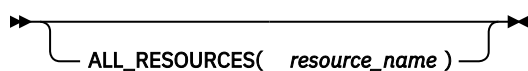
There is no default.

ALL_RESOURCES

This optional keyword specifies that the resource names of all resource types handled by this utility are to be queried.

This keyword is applicable only when FUNC (QUERY) is specified and cannot be specified with any other resource keywords.

Format:



resource_name

Specify a 1- to 11-character resource name. The resource name can include wildcards (* and %). If a wildcard is used, all the resources that match that wildcard are returned.

There is no default.

Output from the Resource Manager Structure utility

The Resource Manager Structure utility generates the Journal Messages report and the RM Structure Information report.

Topics:

- [“Journal Messages report” on page 105](#)
- [“RM Structure Information report” on page 106](#)

Journal Messages report

The Journal Messages report contains processing messages about the Resource Manager Structure utility job. This report is generated in the GEXSJRN data set.

Sample report

The following figure shows an example of the Journal Messages report:

Tools Base Common Services - V1R8 5655-V93	Journal Messages	RM Structure Utility Date: 2026-02-27 Time: 04:11:59
2026-02-27 04:11:599 GEXS101I THE RM STRUCTURE UTILITY PROCESS HAS STARTED.		
2026-02-27 04:11:599 GEXS131I THE FOLLOWING OPTIONS ARE USED FOR THE RM STRUCTURE UTILITY:		
2026-02-27 04:11:599 GEXS131I	- FUNC	... QUERY
2026-02-27 04:11:599 GEXS131I	- PLEXNAME	... IMSPX
2026-02-27 04:11:599 GEXS131I	- TRANSACT	... DSFFHR2A
2026-02-27 04:11:599 GEXS131I	- TRANSACT	... DSF*
2026-02-27 04:11:599 GEXS131I	- LTERM	... LT%***A
2026-02-27 04:12:000 GEXS102I THE RM STRUCTURE UTILITY PROCESS HAS ENDED NORMALLY.		

Figure 8: Journal Messages report

RM Structure Information report

The RM Structure Information report contains information about the resources that were queried or deleted. This report is generated in the GEXSRPRT data set.

Sample reports

The following figure shows an example of the RM Structure Information report when FUNC (QUERY) was specified:

Tools Base Common Services - V1R8 5655-V93	RM Structure Information Report	Date: 2026-02-27	Page: 1 Time: 04:11:59
FUNC (QUERY) PLEXNAME (IMSPX) TRANSACT (DSF*)			
TYPE	NAME	VERSION	OWNER
-----	-----	-----	-----
TRANSACT	DSFFHR2A	0000000000000001	
TRANSACT	DSFFOE2A	0000000000000001	
TRANSACT	DSFFIT8A	0000000000000001	

Figure 9: RM Structure Information report (Query)

The following figure shows an example of the RM Structure Information report when FUNC (DELETE) was specified:

Tools Base Common Services - V1R8 5655-V93	RM Structure Information Report	Date: 2026-02-27	Page: 1 Time: 04:11:59
FUNC (DELETE) PLEXNAME (IMSPX)			
TYPE	NAME	VERSION	OWNER
-----	-----	-----	-----
TRANSACT	DSFFHR2A	0000000000000001	
TRANSACT	DSFFOE2A		
LTERM	LT0501A	0000000000000001	
:			
			RESULT

			DELETED
			GEXS141W NO RESOURCE FOUND.
			DELETED

Figure 10: RM Structure Information report (Delete)

Report field descriptions

The RM Structure Information report shows the following fields:

FUNC

PLEXNAME

resource keywords

Shows the values specified for the FUNC keyword and the PLEXNAME keyword in the control statement. If you queried resources, the resource keywords specified in the control statement are also shown.

The table in the report shows information about the resources that were queried or deleted.

If you queried resources, the resource information extracted for each resource keyword is listed on a page. If multiple resource keywords were specified, the resource information for each resource keyword is listed on a separate page.

If you deleted resources, the resource information about all the specified resource keywords are listed on a page, followed by the results of processing.

The report fields are as follows:

TYPE

This column shows the resource keyword of the resource type that you specified. If you specified ALL_RESOURCES, individual resource keywords are shown.

NAME

This column shows the 11-byte resource name defined by the client (IMS).

VERSION

This column shows the resource version, which is the number of times the resource has been updated.

OWNER

This column shows the resource attribute that signifies the owner of the resource. This column might be blank.

RESULT

This column shows the result of the deletion process. If a resource was successfully deleted, DELETED is displayed.

JCL examples for the Resource Manager Structure utility

Use these JCL examples to code JCL statements for the Resource Manager Structure utility.

Topics:

- [“Example 1: Extracting all resources for all resource types handled by this utility” on page 107](#)
- [“Example 2: Extracting the resources that meet the selection criteria specified for each resource type” on page 107](#)
- [“Example 3: Deleting the specified resources” on page 108](#)

Example 1: Extracting all resources for all resource types handled by this utility

The following figure shows example JCL for extracting all resources from the resource structure.

Figure 11: Example 1: Extracting all resources

```
//GEXSUTL0 JOB class="A"  
//PGM1 EXEC PGM=GEXSUTL0,PARM='FUNC=RMSU'  
//STEPLIB DD DISP=SHR,DSN=ITB.SGLXLOAD  
// DD DISP=SHR,DSN=ITB.SHKTLOAD  
// DD DISP=SHR,DSN=IMS.SDFSRESL  
//GEXSJRNL DD SYSOUT=* //GEXSRPRT DD SYSOUT=*  
//GEXSYSIN DD *  
FUNC(QUERY)  
PLEXNAME(IMSPX)  
ALL_RESOURCES(*)  
/*
```

In this example, the generic resource name (*) specified in ALL_RESOURCES means returning all resources of all resource types handled by this utility.

Example 2: Extracting the resources that meet the selection criteria specified for each resource type

The following figure shows example JCL for extracting only the resources that meet the specified selection criteria from the resource structure.

Figure 12: Example 2: Extracting the resources that meet the selection criteria

```
//GEXSUTL0 JOB CLASS=A  
//PGM1 EXEC PGM=GEXSUTL0,PARM='FUNC=RMSU'  
//STEPLIB DD DISP=SHR,DSN=ITB.SGLXLOAD  
// DD DISP=SHR,DSN=ITB.SHKTLOAD  
// DD DISP=SHR,DSN=IMS.SDFSRESL  
//GEXSJRNL DD SYSOUT=*  
//GEXSRPRT DD SYSOUT=*  
//GEXSYSIN DD *  
FUNC(QUERY)  
PLEXNAME(IMSPX)  
TRANSACTION(DSFFHR2A)  
TRANSACTION(DFS*)  
LTERM(LT%%A)  
/*
```

In this example,

- The transaction resource DSFFHR2A is extracted and reported because TRANSACT(DSFFHR2A) is specified.
- The transaction resources that begin with DFS are extracted and reported because TRANSACT(DFS*) is specified.
- The logical terminal (LTERM) resources of any 7-character strings that begin with LT and ends with A are extracted and reported because LTERM(LT%***A) is specified.

Example 3: Deleting the specified resources

The following figure shows example JCL for deleting the specified resources from the resource structure.

Figure 13: Example 3: Deleting the specified resources

```
//GEXSUTL0 JOB CLASS=A
//PGM1 EXEC PGM=GEXSUTL0,PARM='FUNC=RMSU'
//STEPLIB DD DISP=SHR,DSN=ITB.SGLXLOAD
// DD DISP=SHR,DSN=ITB.SHKTLOAD
// DD DISP=SHR,DSN=IMS.SDFSRESL
//GEXSJRNL DD SYSOUT=*
//GEXSRPRT DD SYSOUT=*
//GEXSYSIN DD *
FUNC(DELETE)
PLEXNAME(IMSPX)
TRANSACT(DSFFHR2A)
TRANSACT(DSFFHR3A)
LTERM(LT0501A)
/*
```

In this example,

- The transaction resources DSFFHR2A and DSFFHR2A are deleted and reported because TRANSACT(DSFFHR2A) and TRANSACT(DSFFHR3A) are specified.
- The logical terminal (LTERM) resource LT0501A is deleted and reported because LTERM(LT0501A) is specified.

Resource Manager Structure utility messages (GEXS)

The IMS Tools Resource Manager Structure utility issues messages that can help you diagnose and solve the utility problems.

Message format

The IMS Tools Resource Manager Structure utility messages adhere to the following format:

```
GEXSnnnꝛ
```

where:

GEXS

Indicates that the message was issued by the IMS Tools Resource Manager Structure utility.

nnn

Indicates the message identification number.

ꝛ

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

GEXS100E: INCORRECT EXEC PARAMETER IS SPECIFIED.

Explanation

An incorrect EXEC parameter is specified for the Common Services utility interface (GEXSUTL0).

System action

Processing ends with a return code of 8.

User response

Correct the EXEC parameter, and rerun the job.

GEXS101I: THE *utility_name* PROCESS HAS STARTED.

Explanation

The Common Services named *utility_name* has started.

System action

Processing continues.

User response

None. This message is informational.

GEXS102I: THE *utility_name* PROCESS HAS ENDED NORMALLY.

Explanation

The Common Services named *utility_name* has ended normally.

System action

Processing continues.

User response

None. This message is informational.

GEXS103W: THE *utility_name* PROCESS HAS ENDED WITH WARNING.

Explanation

The Common Services named *utility_name* has ended with warnings.

System action

Processing ends with a return code of 4.

User response

Check another message whose suffix is W. If this is not the expected result, correct the error, and rerun the job.

GEXS104E: THE *utility_name* PROCESS HAS ENDED WITH ERROR.

Explanation

The Common Services named *utility_name* has ended with errors.

System action

Processing ends with a return code of 8.

User response

Check another message whose suffix is E. Correct the error, and rerun the job.

GEXS105E: STORAGE OBTAIN FAILED. RC=*return_code*, SIZE=*size*, MOD=*module*, ERROR_ID=*error_id*.

Explanation

The Resource Manager Structure utility failed to obtain storage.

return_code

Shows the return code (in hexadecimal) that is returned from the STORAGE macro.

size

Shows the size of the storage that could not be obtained.

module

Shows the name of the failed module.

error_id

Shows the error ID that is associated with the module.

System action

Processing ends with a return code of 8.

User response

Increase the REGION size on the JOB statement in the JCL, and rerun the utility.

GEXS106E: STORAGE RELEASE FAILED. RC=*return_code*, SIZE=*size*, MOD=*module*, ERROR_ID=*error_id*.

Explanation

The Resource Manager Structure utility failed to release storage.

In the message text,

return_code

Shows the return code (in hexadecimal) that is returned from the STORAGE macro.

size

Shows the size of the storage that could not be released.

module

Shows the name of the failed module.

error_id

Shows the error ID that is associated with the module.

System action

Processing ends with a return code of 8.

User response

This error might be an internal system error. Contact IBM® Software Support.

GEXS107E: OPEN FAILED. DDNAME=*ddname*. RC=*return_code*.

Explanation

The Resource Manager Structure utility failed to open the data set that is specified by the *ddname* DD. The hexadecimal value *return_code* is the return code from the OPEN macro.

System action

Processing ends with a return code of 8.

User response

See *z/OS® DFSMS Macro Instructions for Data Sets* to determine the meaning of the return code. If the problem persists, contact IBM® Software Support.

GEXS108W: SNAP FAILED. RC=*return_code*.

SNAP SERVICE TERMINATED DUE TO PREVIOUS ERROR.

Explanation

The Resource Manager Structure utility failed to create a snap dump. The hexadecimal value *return_code* is the return code from the SNAP macro. The Resource Manager Structure utility terminated the snap service due to the error.

System action

Processing continues with a return code of 4.

User response

Correct the error, and rerun the job.

GEXS109E: DYNALLOC SERVICE FAILED FOR FUNC=[ALLOC | UNALLOC], [DDNAME=*ddname* | DSNNAME=*dsname*], RC=*return_code*, RSN=*reason_code*.

Explanation

The Resource Manager Structure utility failed to allocate or deallocate the data set for DD name *ddname* or the data set named *dsname*. The hexadecimal value *return_code* is the return code from SVC99. The hexadecimal value *reason_code* is the S99ERROR and S99INFO contents.

System action

Processing ends with a return code of 8.

User response

Look up the dynamic allocation (SVC99) code in *z/OS® MVS™ Programming: Authorized Assembler Services Guide*. Correct the problem, and rerun the job.

GEXS110E: UTILITY ENDED WITH ERROR. RC=*return_code*, RSN=*reason_code*.

Explanation

The Resource Manager Structure utility interface (GEXSUTLO) ended with an error. Hexadecimal values *return_code* and *reason_code* indicate the return and reason codes from the requested function, respectively.

System action

Processing ends with a return code of 8.

User response

Correct the error, and rerun the job.

GEXS111E: ERRORS DETECTED WHILE *xxxxxxx*

Explanation

The Resource Manager Structure utility encountered errors during its processing.

xxxxxxx indicates one of the following text:

ANALYZING INPUT PARAMETERS
BUILDING SCI ENVIRONMENT
GENERATING REPORTS

System action

Processing ends with a return code of 8.

User response

Check another message whose suffix is E. Correct the error, and rerun the job.

GEXS112E: LOAD FAILED. MODULE=*modname*, SC=*code*, RSN=*reason_code*.

Explanation

The Resource Manager Structure utility failed to load the module named *modname*. The hexadecimal value *code* is the abend code, and the hexadecimal value *reason_code* is the reason code associated with the abend.

System action

Processing ends with a return code of 8.

User response

Check if the correct load module library is specified in the STEPLIB DD statement.

GEXS113W: THE BPE STRING PRINT FORMATTING SERVICE DETECTED AN ERROR: RC=*nn*.

Explanation

The internal messaging service detected an error during the message validation process. The hexadecimal value *nn* is the return code returned by BPE message processing.

System action

The message validation process stops, and processing continues with a return code of 4.

User response

Contact IBM® Software Support.

GEXS114W: THE BPE WTO PRINT FORMATTING SERVICE DETECTED AN ERROR: RC=*nn*.

Explanation

The internal messaging service detected an error during the message validation process. The hexadecimal value *nn* is the return code returned by BPE message processing.

System action

The message validation process stops, and processing continues with a return code of 4.

User response

Contact IBM® Software Support.

GEXS119E: ESTAE FAILED. RC=*return_code*, MOD=*modname*.

Explanation

The ESTAE request issued by the Resource Manager Structure utility failed. The hexadecimal value *return_code* is the return code of the ESTAE macro. *modname* is the module name that requested the ESTAE macro.

System action

Processing ends with a return code of 8.

User response

Correct the error, and rerun the job.

GEXS120E: UNSUPPORTED *component_type* RELEASE FOR *component_name*.

Explanation

The Resource Manager Structure utility detected an unsupported release of an IMS system component. The component type and name are included in the message.

System action

Processing ends with a return code of 8.

User response

Correct the error, and rerun the job.

GEXS121E: SCI *service* SERVICE FAILURE. RC=*return_code*, RSN=*reason_code*.

Explanation

A Structured Call Interface (SCI) service request failed. The requested service in the message indicates the failing SCI service. Hexadecimal values *return_code* and *reason_code* are the return and reason codes returned by SCI, respectively.

System action

Processing ends with a return code of 8.

User response

For more information about SCI services, see *IMS System Programming APIs*. If the problem persists, contact IBM® Software support.

GEXS122E: RM *service* SERVICE FAILURE. RC=*return_code*, RSN=*reason_code*.

Explanation

A Resource Manager (RM) service request failed. The requested service in the message indicates the failing RM service. Hexadecimal values *return_code* and *reason_code* are the return and reason codes returned by RM, respectively.

System action

Processing ends with a return code of 8.

User response

For more information about RM services, see *IMS System Programming APIs*. If the problem persists, contact IBM® Software support.

GEXS123E: SCI WAS NOT ACTIVE IN THE IMSPLEX(*plexname*).

Explanation

The Resource Manager Structure utility attempted to establish a connection to SCI, and the SCI was not active in the IMSplex.

In the message text, *plexname* is the IMSplex name specified by the PLEXNAME keyword.

System action

Processing ends with a return code of 8.

User response

Correct the error, and rerun the job.

GEXS130E: AN ERROR WAS DETECTED WHILE ANALYZING THE CONTROL STATEMENT. RC=*return_code*, FUNC=*function*.

DETAIL OF THE ERROR IS AS FOLLOWS: ...

Explanation

The control statement analysis process detected a syntax error in the control statement. Review the other message, BPE0003E, which explains the details of the error.

System action

Processing ends with a return code of 8.

User response

Correct the control statement, and rerun the job.

GEXS131I: THE FOLLOWING OPTIONS ARE USED FOR THE RM STRUCTURE UTILITY:

- *keyword_name1* ... *value1*

- *keyword_name2* ... *value2*

...

Explanation

This message shows individual processing options of the Resource Manager Structure utility on each line. This message is for informational purposes only.

System action

Processing continues.

User response

None. This message is informational.

GEXS133E: RESOURCE MUST BE SPECIFIED WITH FUNC(*function*).

Explanation

No resource keywords were specified in the control statement. Resource keywords are the keywords used to specify which resources you want to process.

System action

Processing ends with a return code of 8.

User response

Specify one or more resource keywords, and rerun the job.

GEXS134E: *keyword1* KEYWORD AND ALL_RESOURCES KEYWORD ARE MUTUALLY EXCLUSIVE.

Explanation

The keyword *keyword1* was specified with the keyword ALL_RESOURCES. These keywords are mutually exclusive.

System action

Processing ends with a return code of 8.

User response

Correct the control statement, and rerun the job.

GEXS135E: ALL_RESOURCES KEYWORD CANNOT BE SPECIFIED WITH FUNC(DELETE).

Explanation

The keyword ALL_RESOURCES was specified with FUNC(DELETE). These keywords are mutually exclusive.

System action

Processing ends with a return code of 8.

User response

Correct the control statement, and rerun the job.

GEXS140W: NO RESOURCES FOUND THAT MEET SELECTION CRITERIA.

Explanation

There are no records that meet the selection criteria specified by the resource keyword.

System action

Processing continues with a return code of 4.

User response

If this is not the expected result, correct the control statement, and rerun the job.

GEXS141W: NO RESOURCE FOUND.

Explanation

The resource information to be deleted was not found.

System action

Processing continues with a return code of 4.

User response

Correct the control statement, and rerun the job.

GEXS142W: THE SPECIFIED RESOURCE NAME INCLUDES WILDCARD CHARACTERS.

Explanation

One or more wildcard characters were specified in the resource keyword. You cannot specify wildcard characters in the resource name when deleting a resource.

System action

Processing continues with a return code of 4.

User response

Correct the control statement, and rerun the job.

Resource Manager Structure utility return codes

The Resource Manager Structure utility ends with one of the following return codes:

Table 23: Return codes reported by the Resource Manager Structure utility		
Return code	Description	User response
0	Job successfully ended.	None.
4	Job ended with a warning message.	Check the messages whose message numbers are suffixed by the letter <i>W</i> . If this is not the expected result, correct the error, and rerun the job.
8	Job ended with an error message.	Check the messages whose message numbers are suffixed by the letter <i>E</i> . Correct the error, and rerun the job.
12	Job abnormally ended and recovered by ESTAE routine.	This might be an internal system error. Contact IBM® Software Support.
16	Job failed to initialize the BPE environment.	Correct any errors, and rerun the job. If this situation persists, contact IBM® Software Support.

IMS Tools Common Pauser reference

IMS Tools Common Pauser enables IMS Tools products to use the BMP and JBP pause feature. IMS Tools Common Pauser modules use FOIU or FOIV prefix.

Information about IMS Tools Common Pauser is provided in the following topics:

Topics:

- [“IMS Tools Common Pauser overview” on page 117](#)
- [“Configuring IMS Tools Common Pauser” on page 117](#)
- [“IMS Tools Common Pauser messages \(FOI01000 - FOI01999\)” on page 117](#)
- [“IMS Tools Common Pauser abend codes” on page 133](#)

IMS Tools Common Pauser overview

IMS Tools Common Pauser enables IMS Tools products to use the BMP and JBP pause feature.

When you reorganize, or change the structure of, a database by using an IMS Tools product, you normally need to wait until all the BMPs and JBPs that access that database are completed. However, by using the BMP and JBP pause feature, you can restructure a database without waiting for long-running BMPs and JBPs to end; the BMP and JBP pause feature temporarily stops the BMPs and JBPs that access the database.

To use the BMP and JBP pause feature, an application must be able to perform an extended restart. For detailed information about extended restart, see the topic “XRST command” in *IMS Application Programming APIs*.

BMP and JBP pause processing flow

For an IMS Tools product to make any changes to a database, it must temporarily stop the database by using the IMS **/STO** or **/DBR** command. However, you cannot stop a database by using these commands while active BMPs and JBPs are accessing that database. IMS Tools Common Pauser enables IMS Tools products to use the BMP and JBP pause feature, which temporarily stops active BMPs and JBPs that access a database to which you want to make changes, thereby enabling those products to restructure the database while the BMPs and JBPs are suspended.

IMS Tools Common Pauser is invoked by pause and restart requests that specify a DBD. When IMS Tools Common Pauser receives a pause request for a DBD, each BMP and JBP that accesses the database defined by the DBD issues a 3303 pseudo abend before the application starts or after the next CHKP call completes; the task control block (TCB) for each BMP and JBP job step will then wait until IMS Tools Common Pauser receives a restart request.

When IMS Tools Common Pauser receives a restart request for a DBD, the job step TCB restarts the BMP and JBP from the beginning or the last completed checkpoint. The restart process of a BMP and JBP job depends on the application restart logic.

Configuring IMS Tools Common Pauser

Before starting to use the BMP and JBP pause feature of IMS Tools Common Pauser through IMS Tools products, you must configure IMS Tools Common Pauser.

Information about configuring IMS Tools Common Pauser and other IMS Tools Base components is provided in the [IMS Tools Base Configuration Guide](#).

You can also download a PDF version of this information from the [IMS Tools Product Documentation](#) page.

IMS Tools Common Pauser messages (FOI01000 - FOI01999)

IMS Tools Common Pauser issues messages that can help you understand the state of the interface and help you resolve errors.

Message format

IMS Tools Common Pauser messages adhere to the following format:

FOI01nnn*x*

where:

FOI

Indicates that the message was issued by IMS Tools Online System Interface or IMS Tools Common Pauser.

01nnn

Indicates the message identification number. IMS Tools Common Pauser uses message numbers in the range of 01000 - 01999.

x

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

FOI01000I: *trace_information*

Explanation

The text of this message provides information about the error.

System action

None.

User response

None. This message is informational.

FOI01001I: IMS TOOLS COMMON PAUSER INITIALIZING

Explanation

IMS Tools Common Pauser initialization has begun.

System action

The job continues processing.

User response

None. This message is informational.

FOI01002I: IMS TOOLS COMMON PAUSER IS ACTIVE FOR THIS JOB EXECUTION

Explanation

IMS Tools Common Pauser initialization has determined that it should be active while this BMP or JBP job is running.

System action

The job continues processing.

User response

None. This message is informational.

FOI01003I: IMS TOOLS COMMON PAUSER INACTIVATED FOR THIS JOB - *reason*

Explanation

After reviewing the execution environment, IMS Tools Common Pauser has determined that it should be inactive while this BMP or JBP job runs.

As indicated by the *reason* parameter, IMS Tools Common Pauser is inactive for the following reason:

FOIVIGNR DDNAME FOUND

The FOIVIGNR DD statement, which is used to exclude the job from IMS Tools Common Pauser processing, is found.

MBR=*program-name* IS AUTO-EXCLUDED

Several OEM and IMS products call the IMS region controller (DFSRR00) in a way that IMS Tools Common Pauser does not support. This can cause abends in the IMS or OEM product.

When IMS Tools Common Pauser detects that it is being called by one of these programs, it deactivates itself to protect you from abends and other problems that can occur in this environment.

The current list of programs that are known to have issues, for which IMS Tools Common Pauser deactivates itself, are:

- IXPBATDV (Compuware File-AID for IMS)
- DFS3UACB (IBM® IMS ACB Generation and Catalog Populate utility)
- DFS3CCIO (IBM® IMS Catalog Copy Import utility)
- DFS3PU00 (IBM® IMS Catalog Populate utility)
- DFS3ID00 (IBM® IMS Data Definition utility)

System action

The job continues processing without IMS Tools Common Pauser.

User response

None. This message is informational.

FOI01004I: IMS TOOLS COMMON PAUSER LOADED FROM APF AUTHORIZED LIBRARY

Explanation

In the BMP or JBP region, IMS Tools Common Pauser was loaded from an APF-authorized library.

Examples are JOBLIB, STEPLIB, MVS™ link list, and Link Pack Area.

System action

Job processing continues.

User response

None. This message is informational.

FOI01008I: PROGRAM RC=X'xxxxxxxx'

Explanation

The return code of the IMS application program is displayed. The value is displayed in hexadecimal format and represents the fullword value that the program specified in register 15 just before ending.

System action

The job continues processing.

User response

None. This message is informational.

FOI01010I: ITCP BMP PAUSING. REQUESTED DBD: *dbdname*

Explanation

The BMP or JBP region is suspended due to a pause request. *dbdname* indicates one of the requested DBD names. This message is issued every 15 seconds.

System action

The BMP or JBP job will restart when all pause requests for the BMP or JBP job are removed.

User response

None. This message is informational.

FOI01011I: XRST CKPTID=*id*

Explanation

The checkpoint ID shown in this message will be used for this restart.

System action

The job continues processing.

User response

None. This message is informational.

FOI01013I: JCL SPECIFIED CKPTID=*id*

Explanation

A value for a symbolic checkpoint ID was specified in the JCL for the job being run.

System action

The job uses this checkpoint ID for any IMS extended restart (XRST) processing.

User response

This message is informational; it reminds you to remove this checkpoint ID from the JCL before the next job run to avoid future U0102 abends.

FOI01014I: BMP PAUSE IS REQUESTED BEFORE THE APPLICATION STARTS

Explanation

A pause was requested before the job is started. The BMP or JBP region will be suspended before the application starts.

System action

The job displays message FOI01015W and suspends execution.

User response

None. This message is informational.

FOI01015W: IMMEDIATE ABEND U3303 SCHEDULED

Explanation

This message is issued for abend U3303. One of various IMS licensed programs is attempting to take a database that is being used by the running job offline.

System action

The job step of the job is suspended after a U3303 abend and put into a wait state. This wait state persists until the database that was taken offline is started again. When the database is started again, IMS extended restart (XRST) resumes the job step from the last successfully completed checkpoint.

User response

None.

FOI01016I: [ATTACH | REATTACH] IN PROGRESS

Explanation

IMS Tools Common Pauser uses MVS™ ATTACH processing to invoke IMS after the execution environment is prepared for IMS. This message is issued just before invoking IMS to process the BMP or JBP application program.

The REATTACH form of the message is displayed when IMS processing is interrupted by a pause request. The REATTACH occurs when IMS Tools Common Pauser determines that it should try to invoke IMS to restart the BMP or JBP application program.

System action

The job continues processing normally.

User response

None. This message is informational.

FOI01017W: IMS JOB STEP ABEND *abend_code*

Explanation

The IMS task for the application abnormally terminated with the abend code shown in this message.

System action

The job continues processing normally.

User response

Review the abend code and any other messages in the job log.

FOI01026E: LOAD FAILED FOR *modname*

Explanation

IMS Tools Common Pauser attempted to load module *modname*, but the load failed.

System action

The job step terminates with a U4020 abend code.

User response

Review the abend code and any other messages in the job log that might be related to the load failure.

FOI01027I: FOIUSOPT NOT FOUND. DEFAULT VALUES WILL BE USED FOR THIS JOB

Explanation

The BMP or JBP region cannot find the base configuration module FOIUSOPT in the STEPLIB.

System action

Job processing continues with default parameter values.

User response

None. This message is informational.

FOI01028E: REQUESTED MODULE *modname* NOT FOUND**Explanation**

IMS Tools Common Pauser attempted to load module *modname* that is specified by MBR= parameter in the JCL, but the load failed.

System action

The job step terminates with a U4020 abend code.

User response

Ensure that the submitted JCL is not modified incorrectly. Also, ensure that the load module library (or library concatenation) is indicated correctly and that the indicated library (or library concatenation) contains the requested program.

**FOI01030E: AN UNEXPECTED ERROR OCCURRED - MODNAME=*modname*
LABEL=*label*****Explanation**

An unexpected error occurred.

System action

IMS Tools Common Pauser terminates the job step with a U4020 abend code.

User response

Contact IBM® Software Support. Provide all job output for analysis.

**FOI01046W: FOIVPRCC ESTAE *number* CREATE FAILED: 'RC = X'*aaaa*'
REASON = X'*bbbb*'****Explanation**

IMS Tools Common Pauser abend protection logic could not be initialized.

System action

The job continues processing.

Certain abends, such as those caused by operator cancel or CPU timeout, are not backed out when the job abends. In that case, restarting the job causes backout to occur.

User response

Contact IBM® Software Support. Provide all job output for analysis.

**FOI01047I: ENTERING FOIVPRCC ESTAE *number* DUE TO *abend_code*
ABEND IN [FOIVPRCC | APPLICATION]****Explanation**

IMS Tools Common Pauser abend protection logic has been activated.

System action

IMS Tools Common Pauser initiates backout processing.

User response

This message normally occurs when an Sx22 or out-of-memory condition occurs, so that backout processing can be initiated.

Determine the reason for the abend and proceed with normal job restart procedures.

FOI01048W: RECURSIVE ENTRY FOR FOIVPRCC ESTAE *number*

Explanation

IMS Tools Common Pauser abend protection logic has encountered a problem.

System action

The job terminates.

User response

Contact IBM® Software Support. Provide all job output for analysis.

FOI01059I: DETACH SUCCESSFUL

Explanation

The IMS task has completed processing and IMS Tools Common Pauser has detached the task.

System action

Processing continues normally.

User response

None. This message is informational.

FOI01087I: *modname* ESTAI ABEND=*abend_code* [REASON=*reason*]

Explanation

An abend occurred when the IMS task that executes the application program was running. This message indicates abend code *abend_code* and reason code *reason*, if those values were supplied.

System action

IMS Tools Common Pauser continues processing.

User response

None. This message is informational.

FOI01151E: UNABLE TO ISSUE ERROR MESSAGE DUE TO ERROR LOCATING CONTROL BLOCK

Explanation

The IMS Tools Common Pauser message routing routine was unable to locate its own control block in storage.

System action

A message that was going to be written to the job output is not issued.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01152E: FOIVPMS RECEIVED AN INVALID REQUEST BYTE

Explanation

The IMS Tools Common Pauser message routing routine was invoked with an invalid request indicator.

System action

A message that was going to be written to the job output is not issued.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01153E: FOIVPMS FILL REQUEST WITH MSG IN PROGRESS

Explanation

The IMS Tools Common Pauser message routing routine was invoked with an invalid request indicator.

System action

A message that was going to be written to the job output is not issued.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01154E: FOIVPMS RECEIVED AN INVALID WTO FLAG BYTE

Explanation

The IMS Tools Common Pauser message routing routine was invoked with an invalid request indicator.

System action

A message that was going to be written to the job output is not issued.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01155E: FOIVPMS SRCH REQUEST WITH NO MSG IN PROGRESS

Explanation

The IMS Tools Common Pauser message routing routine was invoked with an invalid request indicator.

System action

A message that was going to be written to the job output is not issued.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01156E: FOIVPMS EXEC REQUEST WITH NO MSG IN PROGRESS

Explanation

The IMS Tools Common Pauser message routing routine was invoked with an invalid request indicator.

System action

A message to be routed to job output is ignored.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01157E: FOIVPMS INPUT REQUEST WITH MSG IN PROGRESS

Explanation

The IMS Tools Common Pauser message routing routine was invoked with an invalid request indicator.

System action

A message to be routed to job output is ignored.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01158E: FOIVPMS SKIP REQUEST WITH MSG IN PROGRESS

Explanation

The IMS Tools Common Pauser message routing routine was invoked with an invalid request indicator.

System action

A message to be routed to job output is ignored.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01160E: OPEN FAILED FOR *ddname*

Explanation

An MVS™ OPEN request was attempted for DD name *ddname*, but the request failed.

System action

IMS Tools Common Pauser messages will not be written to the indicated data set.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01161E: FOIVPMS LENGTH OF MESSAGE EXCEEDS 126

Explanation

The IMS Tools Common Pauser message routing routine was invoked with an invalid message length.

System action

The message is ignored.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01163E: FOIVPMS SEQUENCING ERROR

Explanation

The IMS Tools Common Pauser message routing routine detected a sequencing error.

System action

A message to be routed to job output is ignored.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01164I: PREVIOUS ERROR FOUND IN MODULE *modname* OFFSET 0Xnnnnnnnn

Explanation

The IMS Tools Common Pauser message routing routine detected an error. The error is described in the previous message.

System action

A message to be routed to job output is ignored.

User response

Review the job output for additional messages that might indicate the reason for the error.

FOI01166E: OPEN FAILED FOR FOIVPRNT DATA SET RC=*rc*

Explanation

An MVS™ OPEN request for the FOIVPRNT data set failed with return code *rc*.

System action

The job terminates with a U4020 abend code.

User response

Check that the FOIVPRNT data set is properly specified in the JCL of the job. Also, review the job log for messages related to this error.

FOI01167E: CLOSE FAILED FOR FOIVPRNT DATA SET RC=*rc*

Explanation

An MVS™ CLOSE request for the FOIVPRNT data set failed with return code *rc*.

System action

The job terminates with a U4020 abend code.

User response

Check that the FOIVPRNT data set is properly specified in the JCL of the job. Also, review the job log for messages related to this error.

FOI01180E: LOAD FAILED FOR MODULE FOIVPHKI

Explanation

An MVS™ LOAD request for module FOIVPHKI failed.

System action

The job terminates with a U4020 abend code.

User response

Review the job output for additional messages that might describe the reason for the load failure.

FOI01181E: INVALID OPTION PASSED TO FOIVPZGE

Explanation

IMS Tools Common Pauser program FOIVPZGE was invoked without the appropriate entry parameters being defined.

System action

The job terminates with abend code U4020.

User response

Obtain a dump of the error, and contact IBM® Software Support for assistance.

FOI01182E: UNABLE TO FIND CONTROL BLOCK HKIB

Explanation

IMS Tools Common Pauser attempted to locate module FOIVPHKI, but the module was not found in the contents directory entry (CDE) list.

System action

The job step terminates with a U4020 abend code.

User response

Gather documentation and contact IBM® Software Support.

FOI01401W: Dynamic allocation failed, SVC 99 reason code *reason*

Explanation

IMS Tools Common Pauser was unable to dynamically allocate a data set. You can find information about the SVC 99 reason codes in the *z/OS® MVS™ Programming: Authorized Assembler Services Guide*.

System action

If the data set is required, processing terminates. Otherwise, processing continues.

User response

Correct the allocation failure, and resubmit a job.

FOI01413E: OPEN failed for DD name *ddname*.

Explanation

The OPEN operation failed for the *ddname*.

System action

Processing terminates.

User response

Collect the output and contact IBM® Software Support.

FOI01420I: PAUSE requested for *dbdname*

Explanation

IMS Tools Common Pauser received a pause request for the DBD indicated by *dbdname*.

System action

The requested DBD will be add to the PAUSE table. The job continues processing.

User response

None. This message is informational.

FOI01421I: PAUSE request for *dbdname* removed

Explanation

IMS Tools Common Pauser removed a pause request for the DBD from the PAUSE table.

System action

The requested DBD is removed from the PAUSE table. The job continues processing.

User response

None. This message is informational.

FOI01424I: Job that requested PAUSE requests ended: *jobname*

Explanation

IMS Tools Common Pauser removed all the pause requests that were requested by the job indicated by *jobname*.

System action

None.

User response

None. This message is informational.

FOI01425I: [Connected to | Disconnected from] online subsystem *nnnn*

Explanation

IMS Tools Common Pauser has connected to or disconnected from IMS subsystem *nnnn*.

System action

The job continues processing.

User response

None. This message is informational.

FOI01490I: FOIVPAUS *function* REQUEST SUCCESSFUL

Explanation

This message is issued by the IMS Tools Common Pauser request utility FOIVIPV0.

The process that is indicated in the message completed successfully.

System action

The job continues processing.

User response

None. This message is informational.

FOI01491A: FOIVIVP0 WAITING. PLEASE REPLY

Explanation

The IMS Tools Common Pauser request utility FOIVIPV0 is waiting for your reply before sending a request.

System action

The job waits until you send a reply.

User response

Respond to the reply message.

FOI01492I: FOIVIVP0 ABEND U4021 REQUESTED

Explanation

The IMS Tools Common Pauser request utility FOIVIPV0 detected an error or an abend request.

System action

The job terminates with a U4021 abend code.

User response

None. This message is informational.

FOI01495E: FOIVPAUS *function* FAILED. RC=*rc*, RSN=*rsn*

Explanation

The IMS Tools Common Pauser request utility FOIVIPV0 sent a request that is indicated in the message, but the request failed with return code *rc* and reason code *rsn*.

System action

The job continues processing.

User response

Review the return and reason codes for FOIVIPV0. If the return and reason codes indicate a problem that you can fix in the IMS subsystem, correct the problem and resubmit the job. If you cannot fix the problem, contact IBM® Software Support.

FOI01496E: FOIVIPV0 SYSIN ALLOCATION FAILED

Explanation

The IMS Tools Common Pauser request utility FOIVIPV0 attempted to allocate a SYSIN data set that is used for calling DBRC, but the allocation failed.

System action

The job terminates with a U4021 abend code.

User response

Ensure that a SYSIN DD statement is included in the FOIVIPV0 job stream.

FOI01497E: OPTION *option_name* VALUE INVALID - *option_value*

Explanation

The IMS Tools Common Pauser request utility FOIVIPV0 was invoked with an invalid value (*option_value*) for option *option_name*.

System action

The job terminates with a U4021 abend code.

User response

Correct the option value and rerun the job.

FOI01498E: INVALID OPTION KEYWORD: *option_name*

Explanation

The IMS Tools Common Pauser request utility FOIVIPV0 was invoked with an invalid option keyword.

System action

The job terminates with a U4021 abend code.

User response

Correct the option keyword and rerun the job.

FOI01502I: IMS Tools Common Pauser DEBUG *status*

Explanation

The DEBUG services started or stopped.

System action

None.

User response

None. This message is informational.

FOI01503I: *action* XCF group *groupname* as member *membername*

Explanation

The job joined or left an XCF group.

System action

None.

User response

If *action* is "joined", confirm that the group this member has joined is the same as the group that other address spaces participate in order to be able to communicate with them.

FOI01511E: Target member *membername* [not found | not active]

Explanation

An attempt to connect to the IMS Tools Common Pauser or IMS Tools Online System Interface component in an IMS control region address space failed for the reason indicated in the message.

System action

The IMS Tools Common Pauser job terminates.

User response

Verify that both IMS Tools Common Pauser and IMS Tools Online System Interface components were successfully initialized in that subsystem and that the components joined the same XCF group.

FOI01512I: Connected with target member *membername*

Explanation

The job successfully connected to the corresponding member.

System action

Processing continues.

User response

None. This message is informational.

FOI01515W: *message_type* from member *membername*

Explanation

An unexpected XCF message was received from the corresponding member. *message_type* shows one of the following values:

NEWMBR

A new member joined the XCF group. The member name is indicated in the message. This type of message is typically received when an IMS subsystem is started during the pausing process.

LOSTCONN

The connection to the member was lost. This type of message is typically received when an IMS subsystem terminates during the BMP or JBP pausing process or the client job abnormally terminates.

System action

If there is any change in an IMS subsystem member within the XCF group during the pausing process, the following problems might occur, depending on the *member_type*:

NEWMBR

The ongoing pausing process might not be run on the newly joined IMS subsystem.

LOSTCONN

The IMS Tools Common Pauser job might terminate abnormally due to loss of connection to an IMS subsystem member within the XCF group during the pausing process.

User response

Take one of the following actions, depending on the *member_type*:

NEWMBR

Ignore the newly joined IMS and continue processing, or cancel the IMS Tools Common Pauser job and rerun it later.

LOSTCONN

If the pause request remained in the PAUSE table due to an abend of the IMS Tools Common Pauser job and one or more BMP or JBP jobs keep pausing, remove the request by using the IMS Tools Common Pauser request utility (FOIVIPV0).

FOI01521W: Error from *modulename*: FUNC=*function* RC=*xxxx* RSN=*xxxx*

Explanation

An error was encountered in module *modulename*.

System action

The IMS Tools Common Pauser job ends abnormally.

User response

Report the problem to IBM® Software Support.

FOI01531I: *TOIrequest* request for DBD *dbdname* [being issued | completed]

Explanation

Requests from IMS Tools Online System Interface to an IMS control region have been made or have completed.

System action

Processing continues.

User response

None. This message is informational.

FOI01533W: *TOIrequest* request for DBD *dbdname action* RC=*rc* RSN=*rsn*

Explanation

An IMS Tools Online System Interface request to the target IMS subsystem failed. This message is generally accompanied by a message from IMS Tools Online System Interface (FOI*nnn*x), and the two messages should indicate the same return and reason codes.

System action

The IMS Tools Common Pauser job ends abnormally.

User response

Refer to the descriptions of the accompanying TOSI message in [“IMS Tools Online System Interface messages \(FOI\)” on page 70](#) to understand the meanings of the return and reason codes and why the request failed. The most likely cause is the status of a DBD in the IMS control region. If you correct the problem, resubmit the IMS Tools Common Pauser job. If you cannot correct the problem, contact IBM® Software Support.

FOI01538E: AOI *command* request to *imsid* failed, RC=*rc* RSN=*rsn*

Explanation

An IMS Tools Common Pauser request that was issued to the IMS Tools Online System Interface failed.

System action

The IMS Tools Common Pauser job terminates.

User response

Review the return and reason codes for IMS Tools Online System Interface. If the return and reason codes indicate a problem that you can fix in the IMS subsystem, correct the problem and resubmit the job. If you cannot fix the problem, contact IBM® Software Support.

FOI01567E: Not all DBDs defined to *imsid*

Explanation

The database definition in the online system is inconsistent. The primary DBD or some index DBDs might be missing.

System action

The process terminates.

User response

Correct the IMS system definition.

FOI01568I: DBDs not defined to *imsid*

Explanation

The requested DBDs are not defined in the specified IMS system.

System action

The XCF connection to this IMS system is terminated.

User response

None. This message is informational.

FOI01575E: Internal message buffer allocation failed

Explanation

IMS Tools Common Pauser cannot allocate the internal message buffers for receiving XCF messages.

System action

Processing terminates.

User response

Contact IBM® Software Support. Provide all job output for analysis.

FOI01576E: Internal message buffers are exhausted

Explanation

The internal message buffers that receive XCF messages are full.

System action

Processing terminates.

User response

Contact IBM® Software Support. Provide all job output for analysis.

FOI01581E: Number of online IMS subsystems has changed

Explanation

The IMS Tools Common Pauser job detected a change in the number of online IMS subsystems during the pausing process. See the preceding FOI01515W message to determine whether any IMS subsystems were started or terminated.

System action

Processing terminates.

User response

If you do not plan to start or shut down any online IMS subsystems, resubmit the IMS Tools Common Pauser job. If you received this message as a result of an error or a sudden termination of the IMS control region, correct the problem in the IMS control region and resubmit the IMS Tools Common Pauser job.

FOI01584E: Unexpected return code from TOSI client, MOD=*module*, FUNC=*function*, RC=*rc*, RSN=*rsn*

Explanation

The IBM® IMS Tools Base IMS Tools Online System Interface (TOSI) client returned an unexpected return code. In the message, *module* is the module name, *function* is the function code, *rc* is the return code, and *rsn* is the reason code.

This message is generally accompanied by a message from IMS Tools Online System Interface (FOI~~nnn~~x), and the two messages should indicate the same return and reason codes.

System action

Processing terminates.

User response

Refer to the descriptions of the accompanying TOSI message in [“IMS Tools Online System Interface messages \(FOI\)” on page 70](#) to understand the meanings of the return and reason codes and why the request failed. If you correct the problem, resubmit the IMS Tools Common Pauser job. If you cannot correct the problem, contact IBM® Software Support.

FOI01585E: TOSI command security check failed for *imsid*, CLASS=*class*, COMMAND=*command*

Explanation

The IMS Tools Common Pauser job is not authorized to execute the indicated command on the IMS subsystem *imsid*. Class *class* is the security class that is used on the IMS subsystem.

System action

Processing terminates.

User response

Make sure that your user ID has the required authority to issue the command.

IMS Tools Common Pauser abend codes

This topic describes the abend codes that are issued by IMS Tools Common Pauser.

Use the information in these codes to help you diagnose and solve IMS Tools Common Pauser problems.

For each abend code, the following accompanying information is provided where applicable:

Explanation:

The Explanation section explains what the abend code means and why it occurred.

System action:

The System action section explains what the system will do in response to the event that triggered this abend code.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

4020:

Explanation

IMS Tools Common Pauser encountered an error that is typically related to a BMP or JBP region.

An error message that precedes this abend code describes the error that was encountered. The following messages might indicate the reason for the abend: FOI01025E, FOI01026E, FOI01028E, FOI01030E, FOI01165E, FOI01166E, FOI01167E, FOI01168E, FOI01169E, FOI01171E, FOI01180E, FOI01181E, or FOI01182E.

System action

The job step terminates abnormally with a U4020 completion code.

User response

For more information, review the job log of the abending job to find error messages, and refer to the description of the error.

4021:**Explanation**

IMS Tools Common Pauser encountered an error with the installation and testing modules. This abend is issued by modules FOIVIVP1 and FOIVINS0.

An error message that precedes this abend code describes the error that was encountered.

System action

The job step terminates abnormally with a U4021 completion code.

User response

For more information, review the job log of the abending job to find error messages, and refer to the description of the error.

Tools Base Diagnostics Aid reference

This section describes the Tools Base Diagnostics Aid utility.

Topics:

- [“Tools Base Diagnostics Aid overview” on page 135](#)
- [“How to run Tools Base Diagnostics Aid with JCL stream” on page 136](#)
- [“Output from the Tools Base Diagnostics Aid” on page 137](#)
- [“Tools Base Diagnostics Aid return codes” on page 138](#)
- [“Tools Base Diagnostics Aid messages” on page 138](#)

Tools Base Diagnostics Aid overview

If you have a problem that you think is not a user error, use the Tools Base Diagnostics Aid to collect the necessary information before you contact IBM® Software Support.

1. Run Tools Base Diagnostics Aid (HKTUDIAG) and obtain the Load Module APAR Status report.
2. Attach the report to the other diagnostic documents (such as job dump list or I/O of the utility).
3. Report the error to IBM®.

Tools Base Diagnostics Aid (HKTUDIAG) generates the Load Module APAR Status report for the IMS Tools maintenance by IBM®. This report shows the latest APAR fixes applied to each module of IMS Tools components.

Tools Base Diagnostics Aid supports the following load modules of IMS Tools products:

Table 24: Load modules supported by the Tools Base Diagnostics Aid		
Product name	Load module library low-level qualifier (LLQ)	Load module prefix
IMS Administration Tool	SATYLOAD	ATY
IMS Buffer Pool Analyzer	SBPLLINK	BPL
IMS Cloning Tool	SGCLLOAD	GCL
IMS Command Control Facility	SCCFLINK	CCF
IMS Database Control Suite	SIDLLMD0	IDL
IMS DEDB Fast Recovery	SDFRLMD0	DFR
IMS Extended Terminal Option Support	SIZTLINK	IZT
IMS High Performance System Generation Tools	SIOHLINK	IOH
IMS Network Compression Facility	SCFNLINK	CFN
IMS Program Restart Facility	SIRTLOAD	IRT
IMS Recovery Solution Pack	SBSYLOAD SFRXLOAD SHPCLMD0	BSY FRX IRO HPC

Product name	Load module library low-level qualifier (LLQ)	Load module prefix
IMS Tools Base	SAIILINK SFOILOAD SGLXLOAD SHCOLMOD SHKTLOAD	AII BSN FOI FPQ GEX GLX GPR HCO HKT IAV

How to run Tools Base Diagnostics Aid with JCL stream

To run Tools Base Diagnostics Aid (HKTUDIAG), supply an EXEC statement and DD statements that define the input and output data sets.

The following figure shows a JCL example for the Tools Base Diagnostics Aid:

```
//HKTUDIAG JOB CLASS=A
//PGM1 EXEC PGM=HKTUDIAG
//STEPLIB DD DISP=SHR,DSN=ITB.SHKTLOAD
//LOADLIB DD DISP=SHR,DSN=ITB.SAIILINK
// DD DISP=SHR,DSN=ITB.SHKTLOAD
//SYSUDUMP DD SYSOUT=A
//HKTPRINT DD SYSOUT=A
//HKTRPRT DD SYSOUT=A
```

EXEC

This statement must be in the following form:

```
//stepname EXEC PGM=HKTUDIAG
```

STEPLIB DD

This statement points to the load module library data set where HKTUDIAG load module resides:

```
//STEPLIB DD DISP=SHR,DSN=ITB.SHKTLOAD
```

ITB.SHKTLOAD is the name of the library that contains the IMS Tools Knowledge Base load modules.

LOADLIB DD

This statement defines the libraries that contain the load modules with which you have a problem. The Tools Base Diagnostics Aid will generate the Load Module APAR Status Report from the libraries defined by the LOADLIB DD.

If this DD statement is not provided, the Load Module APAR Status report will be generated from the libraries defined by the STEPLIB DD.

HKTPRINT DD

This statement defines the output data set for the Journal Messages report. The data set contains 133-byte, fixed-length records. It can reside on a tape, direct-access device, or printer; or it can be routed through the output stream. If BLKSIZE is coded in the DD statement, it must be a multiple of 133. However, it is recommended that you use the following:

```
//HKTPRINT DD SYSOUT=A
```

If you do not specify this DD statement, the Tools Base Diagnostics Aid dynamically allocates the data set by using SYSOUT=*

HKTRPRT DD

This statement defines the output data set for the Load Module APAR Status report. The data set contains 133-byte, fixed-length records. It can reside on a tape, direct-access device, or printer; or it can be routed

through the output stream. If BLKSIZE is coded in the DD statement, it must be a multiple of 133. However, it is recommended that you use the following:

```
//HKTRPRT DD SYSOUT=A
```

If you do not specify this DD statement, the Tools Base Diagnostics Aid dynamically allocates the data set by using SYSOUT=*.

Output from the Tools Base Diagnostics Aid

The Tools Base Diagnostics Aid generates a Journal Messages report and a Load Module APAR Status report.

Topics:

- [“Journal Messages report” on page 137](#)
- [“Load Module APAR Status report” on page 137](#)

Journal Messages report

The Journal Messages report contains processing messages about the Tools Base Diagnostics Aid job. This report is generated in the HKTPRINT data set.

Sample report

The following figure shows an example of the Journal Messages report:

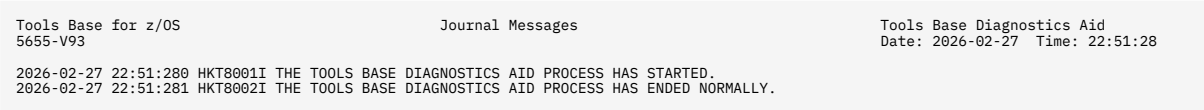


Figure 14: Journal Messages report

Load Module APAR Status report

The Load Module APAR Status report contains information about the modules and their applied APARs.

Sample report

The following figure shows an example of the Load Module APAR Status report for the SHKTLLOAD library.

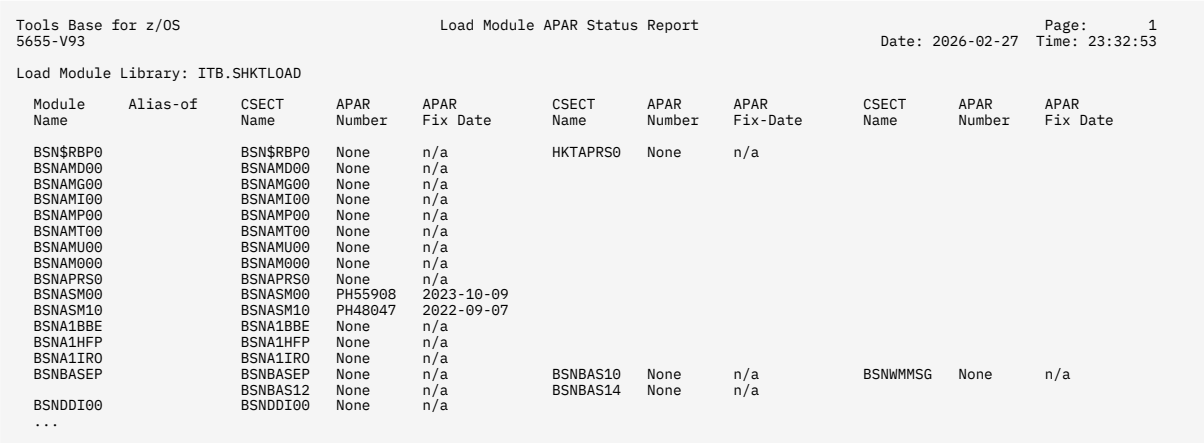


Figure 15: Load Module APAR Status report

Report field descriptions

The Load Module APAR Status report shows the following fields:

Load Module Library

This field shows the data set names specified in the LOADLIB DD statement. If multiple data sets are concatenated, only the first data set is shown with a plus sign (+).

Module Name

This is the name of either the load module member or the alias that is associated with an IMS Tools feature.

Alias-of

This is the name of the original member of the alias. If the module name is not an alias, this field is left blank.

The following fields are repeated if the module contains more than one CSECT.

CSECT Name

This is the name of the CSECT included in the module. The CSECT names are listed in the order in which they are included in the module.

APAR Number

This is the latest APAR number applied to the module represented by the CSECT name. If no APAR is applied, None is shown.

APAR Fix Date

This is the date on which the modification for the module represented by the CSECT name was prepared. If no APAR is applied or no date information is included in the CSECT, n/a is shown.

Tools Base Diagnostics Aid return codes

The Tools Base Diagnostics Aid ends with one of the following return codes:

Table 25: Return codes reported by Tools Base Diagnostics Aid		
Return code	Description	User response
0	Job successfully ended.	None.
4	Job ended with a warning message.	Check the messages whose message numbers are suffixed by the letter <i>W</i> . If this is not the expected result, correct the error, and rerun the job.
8	Job ended with an error message.	Check the messages whose message numbers are suffixed by the letter <i>E</i> . Correct the error, and rerun the job.
16	Job failed to initialize the BPE environment.	Correct any errors, and rerun the job. If this situation persists, contact IBM® Software Support.

Tools Base Diagnostics Aid messages

The Tools Base Diagnostics Aid issues messages that can help you diagnose and solve the problems.

Message format

The Tools Base Diagnostics Aid messages adhere to the following format:

```
HKTnnnꝛ
```

where:

HKT

Indicates that the message was issued by the Tools Base Diagnostics Aid.

nnn

Indicates the message identification number.

ꝛ

Indicates the severity of the message:

A

Indicates that operator intervention is required before processing can continue.

E

Indicates that an error occurred, which might or might not require operator intervention.

I

Indicates that the message is informational only.

W

Indicates that the message is a warning to alert you to a possible error condition.

Each message also includes the following information:

Explanation:

The Explanation section explains what the message text means, why it occurred, and what its variables represent.

System action:

The System action section explains what the system will do in response to the event that triggered this message.

User response:

The User response section describes whether a response is necessary, what the appropriate response is, and how the response will affect the system or program.

HKT8001I: THE *utility_name* PROCESS HAS STARTED.

Explanation

The batch utility named *utility_name* has started.

System action

Processing continues.

User response

None. This message is informational.

HKT8002I: THE *utility_name* PROCESS HAS ENDED NORMALLY.

Explanation

The batch utility named *utility_name* has ended normally.

System action

Processing continues.

User response

None. This message is informational.

HKT8003W: THE *utility_name* PROCESS HAS ENDED WITH WARNING.

Explanation

The batch utility named *utility_name* has ended with warnings.

System action

Processing ends with a return code of 4.

User response

Check another message whose suffix is *W*. If this is not the expected result, correct the error, and rerun the job.

HKT8004E: THE *utility_name* PROCESS HAS ENDED WITH ERROR.

Explanation

The batch utility named *utility_name* has ended with errors.

System action

Processing ends with a return code of 8.

User response

Check another message whose suffix is *E*. Correct the error, and rerun the job.

HKT8005E: STORAGE OBTAIN FAILED. RC=*return_code*, SIZE=*size*, MOD=*module*, ERROR_ID=*error_id*.**Explanation**

The batch utility failed to obtain storage.

return_code

Shows the return code (in hexadecimal) that is returned from the STORAGE macro.

size

Shows the size of the storage that could not be obtained.

module

Shows the name of the failed module.

error_id

Shows the error ID that is associated with the module.

System action

Processing ends with a return code of 8.

User response

Increase the REGION size on the JOB statement in the JCL, and rerun the utility.

HKT8006E: STORAGE RELEASE FAILED. RC=*return_code*, SIZE=*size*, MOD=*module*, ERROR_ID=*error_id*.**Explanation**

The batch utility failed to release storage. In the message text,

return_code

Shows the return code (in hexadecimal) that is returned from the STORAGE macro.

size

Shows the size of the storage that could not be released.

module

Shows the name of the failed module.

error_id

Shows the error ID that is associated with the module.

System action

Processing ends with a return code of 8.

User response

This error might be an internal system error. Contact IBM® Software Support.

HKT8007E: OPEN FAILED. DDNAME=*ddname*. RC=*return_code*.**Explanation**

The batch utility failed to open the data set that is specified by the *ddname* DD. The hexadecimal value *return_code* is the return code from the OPEN macro.

System action

Processing ends with a return code of 8.

User response

See *z/OS® DFSMS Macro Instructions for Data Sets* to determine the meaning of the return code. If the problem persists, contact IBM® Software Support.

**HKT8009E: DYNALLOC SERVICE FAILED FOR FUNC=[ALLOC | UNALLOC],
[DDNAME=*ddname* | DSNNAME=*dsname*], RC=*return_code*,
RSN=*reason_code*.**

Explanation

The batch utility failed to allocate or deallocate the data set for DD name *ddname* or the data set named *dsname*. The hexadecimal value *return_code* is the return code from SVC99. The hexadecimal value *reason_code* is the S99ERROR and S99INFO contents.

System action

Processing ends with a return code of 8.

User response

Look up the dynamic allocation (SVC99) code in *z/OS® MVS™ Programming: Authorized Assembler Services Guide*. Correct the problem, and rerun the job.

HKT8011E: ERRORS DETECTED WHILE *xxxxxxxx*

Explanation

The batch utility encountered errors during its processing.

xxxxxxxx

Indicates one of the following:

- ANALYZING INPUT PARAMETERS
- ANALYZING LOAD MODULES
- GENERATING REPORTS

System action

Processing ends with a return code of 8.

User response

Check the message whose suffix is *E* in the Journal Messages report. Correct the error, and rerun the job.

**HKT8012E: LOAD FAILED. MODULE=*modname*, SC=*code*,
RSN=*reason_code*.**

Explanation

The batch utility failed to load the module named *modname*. The hexadecimal value *code* is theabend code, and the hexadecimal value *reason_code* is the reason code associated with theabend.

System action

Processing ends with a return code of 8.

User response

Check if the correct load module library is specified in the STEPLIB DD statement.

**HKT8016E: BINDER API FAILED. FUNC=*function*, RC=*return_code*,
RSN=*reason_code*.**

- DDNAME=*ddname*, MODULE=*modname*.

Explanation

The binder API (IEWBIND) failed to retrieve information from the load module *modname* in the library *ddname*. *function* is the name of the failed IEWBIND function. The hexadecimal values *return_code* and *reason_code* are the return code and the reason code from the IEWBIND.

System action

Processing ends with a return code of 8.

User response

Check if the correct load module library is specified in the *ddname* DD statement. See *z/OS® MVS™ Program Management: Advanced Facilities* to determine the meaning of the return code and the reason code. If the problem persists, contact IBM® Software Support.

HKT8018E: RDJFCB FAILED. DDNAME=*ddname*. RC=*return_code*.**Explanation**

The batch utility issued an RDJFCB macro for the specified *ddname*, and the macro returned an error. The hexadecimal value *return_code* is the return code from the RDJFCB macro.

System action

Processing ends with a return code of 8.

User response

Check if the correct load module library is specified in the *ddname* DD statement. See *DFSMS DFSMSdfp Advanced Services* to determine the meaning of the return code. If the problem persists, contact IBM® Software Support.

HKT8026W: UNABLE TO DIAGNOSE THE CSECT *csectname* IN THE MODULE *modname*. REASON: *text*.**Explanation**

The Tools Base Diagnostics Aid could not diagnose the CSECT *csectname* in the load module *modname*. *text* shows the reason why the Diagnostics Aid could not diagnose this CSECT. The Tools Base Diagnostics Aid skips this CSECT and continues processing.

System action

Processing continues with a return code of 4.

User response

Check if the correct load module library is specified in the LOADLIB DD statement. If the problem persists, contact IBM® Software Support.

HKT8027W: THE NUMBER OF CSECTS IN THE MODULE *modname* EXCEEDS THE LIMIT TO DIAGNOSE.**Explanation**

The number of CSECTs in the module *modname* exceeds the limit for the Tools Base Diagnostics Aid. Some CSECTs in the *modname* will not be shown in the Load Module APAR Status report.

System action

Processing continues with a return code of 4.

User response

Check if the correct load module library is specified in the LOADLIB DD statement. If the problem persists, contact IBM® Software Support.

HKT8029E: THERE ARE NO MEMBERS TO DIAGNOSE.

Explanation

The Tools Base Diagnostics Aid could not find any load module member to diagnose.

System action

Processing ends with a return code of 8.

User response

Specify the correct load module library in the LOADLIB DD statement, and rerun the job.

HKT8030E: AN ERROR WAS DETECTED WHILE ANALYZING THE CONTROL STATEMENT. RC=*return_code*, FUNC=*function*.

DETAIL OF THE ERROR IS AS FOLLOWS: ...

Explanation

The control statement analysis process detected a syntax error in the control statement.

System action

Processing ends with a return code of 8.

User response

Review the other message, BPE0003E, which explains the details of the error. Correct the control statement, and rerun the job.

HKT8031I: THE FOLLOWING OPTIONS ARE USED FOR THE *utility_name*:

- *keyword_name1* ... *value1*
- *keyword_name2* ... *value2*

Explanation

This message shows individual processing options of the batch utility named *utility_name* on each line. This message is for informational purposes only.

System action

Processing continues.

User response

None. This message is informational.

HKT8032E: THE VALUE *value* IS INCORRECT FOR THE *keyword* KEYWORD

Explanation

The value *value* is incorrect for the *keyword* keyword.

System action

Processing ends with a return code of 8.

User response

Correct the control statement, and rerun the job.

HKT8039E: *value1* AND *value2* ARE MUTUALLY EXCLUSIVE FOR *keyword* KEYWORD.

Explanation

The value *value1* was specified with the value *value2* for the *keyword* keyword. These values are mutually exclusive.

System action

Processing ends with a return code of 8.

User response

Correct the control statement, and rerun the job.

HKT8056E: NO MEMBERS WERE FOUND IN THE *ddname* DD.

Explanation

The batch utility tried to obtain load module members from the *ddname* DD, but there were no members in the DD.

System action

Processing ends with a return code of 8.

User response

Specify the correct load module library, and rerun the job.

HKT8057E: DESERV FAILED. FUNC=*function_code*, RC=*return_code*, RSN=*reason_code*, DDNAME=*ddname*.

Explanation

The batch utility issued the z/OS DESERV macro internally, but the macro failed.

- *function_code*, *return_code*, and *reason_code* show the function code, the return code, and the reason code of the DESERV macro, respectively.
- *ddname* shows the name of the DD statement that caused the error.

System action

Processing ends with a return code of 8.

User response

Check if the correct data set is specified in the *ddname* DD, and rerun the job. If the problem persists, contact IBM® Software Support.

Notices

This information was developed for products and services offered in the US. This material might be available from IBM® in other languages. However, you may be required to own a copy of the product or product version in that language in order to access it.

IBM® may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM® representative for information on the products and services currently available in your area. Any reference to an IBM® product, program, or service is not intended to state or imply that only that IBM® product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM® intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM® product, program, or service.

IBM® may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM® Director of Licensing
IBM® Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
US

For license inquiries regarding double-byte (DBCS) information, contact the IBM® Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM® Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM® may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM® websites are provided for convenience only and do not in any manner serve as an endorsement of those websites. The materials at those websites are not part of the materials for this IBM® product and use of those websites is at your own risk.

IBM® may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM® Director of Licensing
IBM® Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
US

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this information and all licensed material available for it are provided by IBM® under terms of the IBM® Customer Agreement, IBM® International Program License Agreement, or any equivalent agreement between us.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to actual people or business enterprises is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM®, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM®, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM® shall not be liable for any damages arising out of your use of the sample programs.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

IBM®, the IBM® logo, and [ibm.com](http://www.ibm.com)® are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM® or other companies. A current list of IBM® trademarks is available on the web at "Copyright and trademark information" at <http://www.ibm.com/legal/copytrade.shtml>.

Other company, product, and service names may be trademarks or service marks of others.

Terms and conditions for product documentation

Permissions for the use of these publications are granted subject to the following terms and conditions:

Applicability: These terms and conditions are in addition to any terms of use for the IBM® website.

Personal use: You may reproduce these publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative work of these publications, or any portion thereof, without the express consent of IBM®.

Commercial use: You may reproduce, distribute and display these publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these publications, or reproduce, distribute or display these publications or any portion thereof outside your enterprise, without the express consent of IBM®.

Rights: Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the publications or any information, data, software or other intellectual property contained therein.

IBM® reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the publications is detrimental to its interest or, as determined by IBM®, the above instructions are not being properly followed.

You may not download, export or re-export this information except in full compliance with all applicable laws and regulations, including all United States export laws and regulations.

IBM® MAKES NO GUARANTEE ABOUT THE CONTENT OF THESE PUBLICATIONS. THE PUBLICATIONS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.

Privacy policy considerations

IBM® Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software Offering uses cookies to collect personally identifiable information, specific information about this offering's use of cookies is set forth below.

This Software Offering does not use cookies or other technologies to collect personally identifiable information.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, see IBM®'s Privacy Policy at <http://www.ibm.com/privacy> and the section titled "Cookies, Web Beacons, and Other

Technologies" in IBM®'s Online Privacy Statement at <http://www.ibm.com/privacy/details>. Also, see the "IBM® Software Products and Software-as-a-Service Privacy Statement" at <http://www.ibm.com/software/info/product-privacy>.

Index

A

abend codes

- Generic Logger exit [25](#)
- Generic MSC exit [48](#)
- Generic Partner exit [36](#)
- Generic QSN exit [58](#)
- IMS Tools Common Pauser [133](#)
- IMS Tools Online System Interface [93](#)

accessibility

- overview [10](#)

B

BMP and JBP pause feature [117](#)

BMP pause feature [117](#)

C

Common Pauser [117](#)

components

- product [8](#)
- cookie policy [145](#), [145](#)

D

DFSFLGX0 [13](#)

DFSMSCEO [38](#)

DFSPPUE0 [27](#)

DFSQSSP0 [50](#)

documentation

- accessing [9](#)
- sending feedback [9](#)

E

EXITINIT parameter [17](#), [30](#), [41](#), [53](#)

EXITPROC parameter [17](#), [30](#), [42](#), [53](#)

G

Generic Logger exit [13](#)

Generic Logger exit

- abend codes [25](#)
- activation [13](#)
- definitions [14](#)
- EXITINIT parameter [17](#)
- EXITPROC parameter [17](#)
- global processing parameters [16](#)
- INITFAIL parameter [17](#)
- LOAD module definitions [15](#)
- messages (GLX) [18](#)
- overview [13](#)
- PROCLIB member definitions [15](#)

Generic MSC exit [38](#)

Generic MSC exit

- abend codes [48](#)
- activation [38](#)
- definitions [40](#)
- EXITINIT parameter [41](#)
- EXITPROC parameter [42](#)
- global processing parameters [41](#)
- INITFAIL parameter [41](#)
- messages (GEX) [42](#)
- overview [38](#)
- PROCLIB member definitions [40](#)

Generic Multiple Systems Coupling exit [38](#)

Generic Partner exit [27](#)

Generic Partner exit

- abend codes [36](#)
- activation [27](#)
- definitions [28](#)
- EXITINIT parameter [30](#)
- EXITPROC parameter [30](#)
- global processing parameters [29](#)
- INITFAIL parameter [30](#)
- messages (GPR) [30](#)
- overview [27](#)

PROCLIB member definitions [29](#)

Generic QSN exit [50](#)

Generic QSN exit

- abend codes [58](#)
- activation [50](#)
- definitions [51](#)
- EXITINIT parameter [53](#)
- EXITPROC parameter [53](#)
- global processing parameters [52](#)
- INITFAIL parameter [53](#)
- messages (GEXQ) [53](#)
- overview [50](#)
- PROCLIB member definitions [52](#)

Generic Queue Space Notification exit [50](#)

Generic TM and MSC Message Routing exit [38](#)

GEXMSCEO [38](#)

GEXQSSP0 [50](#)

GEXQxxxx PROCLIB member [51](#)

GEXxxxx0 PROCLIB member [40](#)

global processing parameters

- Generic Logger exit [16](#)
- Generic MSC exit [41](#)
- Generic Partner exit [29](#)
- Generic QSN exit [52](#)

GLXEXIT0

- load member [14](#)

GLXILGX0 [13](#)

GLXxxxx0 PROCLIB member [14](#)

GPRIPUE0 [27](#)

GPRxxxx0 PROCLIB member [28](#)

I

IMS Tools Catalog Interface

- messages (GEX3) [96](#)

IMS Tools Common Pauser

- abend codes [133](#)
- configuring [117](#)
- messages (FOI01) [117](#)
- overview [117](#)

IMS Tools Common Services

- overview [7](#)

IMS Tools Generic Logger exit [13](#)

IMS Tools Generic Multiple Systems Coupling exit [38](#)

IMS Tools Generic Partner exit [27](#)

IMS Tools Online System Interface

- abend codes [93](#)
- guidelines for using [61](#)
- messages (FOI) [70](#)
- overview [61](#)

IMS Tools Queue Space Notification exit [50](#)

INITFAIL parameter [17](#), [30](#), [41](#), [53](#)

J

JBP pause feature [117](#)

L

legal notices

- cookie policy [145](#), [145](#)
- notices [145](#)
- product documentation [145](#)
- programming interface information [145](#)
- trademarks [145](#), [145](#)

M

messages

- Generic Logger exit routine [18](#)
- Generic MSC exit [42](#)
- Generic Partner exit [30](#)
- Generic QSN exit [53](#)
- IMS Tools Catalog Interface [96](#)
- IMS Tools Common Pauser [117](#)
- IMS Tools Online System Interface [70](#)
- Resource Manager Structure utility [108](#)

Tools Base Diagnostics Aid [138](#)

N

notices [145](#)

O

overview
product [7](#)

P

product documentation terms and conditions [145](#)
programming interface information [145](#)

R

Resource Manager Structure utility
control statement [102](#)
DD statements [101](#)
EXEC statement [101](#)
JCL examples [107](#)
Journal Messages report [105](#), [106](#)
messages (GEXS) [108](#)
output [105](#)
return codes [116](#)
running [100](#)
return codes
Resource Manager Structure utility [116](#)
Tools Base Diagnostics Aid [138](#)

S

screen readers and magnifiers [10](#)
service information [9](#)
summary of changes [7](#)
support information [9](#)

T

Tools Base Diagnostics Aid [135](#)
Tools Base Diagnostics Aid
EXEC and DD statements [136](#)
Journal Messages report [137](#)
Load Module APAR Status report [137](#)
messages [138](#)
output [137](#)
return codes [138](#)
Tools Online System Interface [93](#)
TOSI client API IVP [62](#)
TOSI client API IVP
control statements [64](#)
DD statements [63](#)
EXEC statement [63](#)
JCL examples [69](#)
output [65](#)
output
action command response [65](#)
WTO messages [68](#)
running [62](#)
trademarks [145](#), [145](#)

