IBM IMS High Performance System Generation Tools for z/OS
Version 2  Release 3

User’s Guide

IBM
IBM IMS High Performance System Generation Tools for 
z/OS
Version 2  Release 3

User’s Guide
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About this information

These topics describe how to configure and use IBM IMS High Performance System Generation Tools (also referred to as IMS HP Sysgen Tools). IMS HP Sysgen Tools assists IMS system programmers and database administrators in managing the IMS system definitions process more efficiently with fewer system resources.

These topics are designed to help IMS system programmers and database administrators with the following key features of IMS HP Sysgen Tools:

• IMSplex support that allows you to simultaneously update multiple IMS control regions when executing a resource update list
• Enhancements to the IMS HP Sysgen Tools history log that allow you to undo selected individual resource changes
• Reverse sysgen options, including the capability to select either in-core control blocks or MODBLKS data set resource definitions
• Issue IMS commands as part of the installation of a resource update list
• Display and alter IMS control blocks and storage with IMS storage map
• Dynamically update Security Maintenance Utility (SMU) definitions for transaction command authorization, command and transaction security for logical terminal (LTERM) names, and application group name (AGN) resource definitions
• Reload ACBLIB definitions for DBDs and program specification blocks (PSBs) without using online change for ACBLIB
• Generate a resource update list that can make IMS control blocks match IMS sysgen source macros

Specific changes since the previous edition of this book are indicated by a vertical bar (|) to the left of a change. Editorial changes that have no technical significance are not noted.

Always check the DB2® and IMS™ Tools Library page for the most current version of this publication:


How to read syntax diagrams

The following rules apply to the syntax diagrams used in this book:

Arrow symbols

Read the syntax diagrams from left to right, from top to bottom, following the path of the line.

|—— Indicates the beginning of a statement.

|--→ Indicates that the statement syntax is continued on the next line.

|→ Indicates that a statement is continued from the previous line.

|——→ Indicates the end of a statement.
• SQL commands appear in uppercase.
• Variables appear in italics (for example, column-name). They represent user-defined parameters or suboptions.
• When entering commands, separate parameters and keywords by at least one blank if there is no intervening punctuation.
• Enter punctuation marks (slashes, commas, periods, parentheses, quotation marks, equal signs) and numbers exactly as given.
• Footnotes are shown by a number in parentheses, for example, (1).
• A / symbol indicates one blank position.

**Required items**
Required items appear on the horizontal line (the main path).

```
>>---REQUIRED-ITEM---
```

**Optional items**
Optional items appear below the main path.

```
>>---REQUIRED-ITEM---
         optional-item
```

If an optional item appears above the main path, that item has no effect on the execution of the statement and is used only for readability.

```
>>---REQUIRED-ITEM---
         optional-item
```

**Multiple required or optional items**
If you can choose from two or more items, they appear vertically in a stack. If you must choose one of the items, one item of the stack appears on the main path.

```
>>---REQUIRED-ITEM---
                  required-choice1
                  required-choice2
```

If choosing one of the items is optional, the entire stack appears below the main path.

```
>>---optional-choice1
                  optional-choice2
```

**Repeatable items**
An arrow returning to the left above the main line indicates that an item can be repeated.

```
>>---REQUIRED-ITEM---repeatable-item
```
If the repeat arrow contains a comma, you must separate repeated items with a comma.

A repeat arrow above a stack indicates that you can specify more than one of the choices in the stack.

**Default keywords**
IBM-supplied default keywords appear above the main path, and the remaining choices are shown below the main path. In the parameter list following the syntax diagram, the default choices are underlined.

---

### How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other IMS Index Builder documentation, use either of the following options:

- Use the online reader comment form, which is located at: [www.ibm.com/software/data/rcf/](http://www.ibm.com/software/data/rcf/)
- Send your comments by e-mail to comments@us.ibm.com. Be sure to include the name of the book, the part number of the book, the version of IMS Queue Control Facility, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).
Part 1. IMS HP Sysgen Tools overview

IMS High Performance System Generation Tools (also referred to as IMS HP Sysgen Tools) provide the capability to dynamically alter IMS sysgen application resources.
Chapter 1. IMS High Performance System Generation Tools overview

IMS High Performance System Generation Tools (also referred to as IMS HP Sysgen Tools) provide the capability to dynamically alter IMS sysgen application resources.

IMS HP Sysgen Tools provide:

- An easy to use interface that allows one person to define a list of changes to be implemented, have the list verified by another person, and be implemented by another person (or scheduled batch job)
- The ability to control which users have the authority to perform each function, providing the necessary control in a shared IMS environment
- Provide an audit log for reviewing all changes made to an IMS system, along with the capability to easily back out individual resource updates

What's new in IMS HP Sysgen Tools

This topic summarizes the technical changes for this edition.

New and changed information is indicated by a vertical bar (|) to the left of a change. Editorial changes that have no technical significance are not noted.

SC19-3983-00

The following updates have been made for this edition:

- The target library names have been updated. See “Target libraries available after installation” on page 15 for more information.
- To support APAR PM75220, messages “IOH2300E” on page 250 and “IOHA009” on page 291 have been added.

SC18-9474-07

The following updates have been made for this edition:

- “Configuration procedures” on page 17 has been updated.
- To support APAR PM81251, the following updates have been added:
  - You can use the IMS ACB member level global online change method to reload an updated IMS ACBLIB member and automatically reload any PSB that is affected by a change to a DBD. See “Enabling the use of IMS ACB member level global online change” on page 53 for more information.
  - There are now two methods for reloading an updated ACBLIB, as described in “Reloading an ACBLIB member” on page 130.
  - New messages “IOH4730E” on page 270 and “IOH4731E” on page 270 have been added to Chapter 15, “Troubleshooting,” on page 205. Messages “IOH4130E” on page 260 and “IOH4142E” on page 262 have been updated.

SC18-9474-06

The following updates have been made for this edition:
New messages have been added to Chapter 15, “Troubleshooting,” on page 205 following APAR PM16708 and APAR PM36744.

ISPF panels and sample reports are updated following APAR PM36744.

Information about support for Resource Definition Data Sets is available in “IMS Resource Definition” on page 8.

The DRD and RDDS options for the batch utility are provided in “IMSID Options Values” on page 189.

SC18-9474-05

The following new features have been added:

- You can now create or update IMSID setup options in batch. The batch process does not use APPC/MVS, so you can create IMSID options easily if you plan to use only the batch Fastgen process.
- You do not need an IMS HP Sysgen Tools Authorized user ID, as long as all users of IMS HP Sysgen Tools have security authorization to all the required resources (such as updating MODBLKS and issuing IMS commands such as MODIFY, START, and ASSIGN).
- You can specify AOI=CMD for a transaction definition.
- The APPC/NVS security requirements documented in this book have been clarified.

SC18-9474-04

The following new features have been added:

- You can selectively limit a user’s ability to update selected resource attributes. You can also set updated default values for resource attributes that apply to a specific set of users.
- Users can specify the APPC/MVS TP profile name used by IMS HP Sysgen Tools.
- Allow you to include a macro in the IMS sysgen source that will cause the IOHCLIST utility to generate ACB reload resource update list entries or AGN update list entries.

SC18-9474-03

- A new Resource Update List feature allows you to rename an existing database, program, transaction, or route code. For more information, refer to IMS HP Sysgen Tools.
- Fast Path Data Entry Database (DEDB) randomizer names have been added as a new resource type. You can display a list of DEDB randomizers and associated DEDB DBD names. In addition, a new option allows you to reload a DEDB randomizer while installing a Resource Update List. For more information, refer to IMS HP Sysgen Tools.
- Resource Update List statistics (user name and last update timestamp) have been enhanced to show the last update statistics at the Resource Update List entry level instead of only at the Resource Update List level. For more information, refer to IMS HP Sysgen Tools.
- A new batch utility has been added to allow users to generate IMS sysgen source from control blocks of a running IMS system or from a MODBLKS dataset. For more information, refer to IMS HP Sysgen Tools.
What do IMS High Performance System Generation Tools do?

IMS High Performance System Generation Tools delivers a comprehensive IMS sysgen management system.

IMS High Performance System Generation Tools allow the following types of IMS sysgen changes:

- Update existing IMS sysgen attributes for database, program, transaction, and fast path route code definitions.
- Add or delete IMS sysgen definitions for databases, programs, transactions, and fast path route codes.
- Rename an existing application resource to a new name, while maintaining attributes and relationships (such as the transactions associated with a renamed program).
- Change IMS SMU security, including AGN, Transaction Command authorization, and Terminal security.
- Reload a specific ACBLIB member, without using ACBLIB online change.
- Reload DEDB randomizer routines.

Once a list of resource updates is created, it can be verified to ensure that there are no resource conflicts and that the updates will install properly in the target IMS system. Installation of the list of resource updates can then be performed, either from a TSO session or via a batch job.

A list of resource updates can be installed in a single IMS system or for a group of IMS systems simultaneously. This feature can be useful in IMSPlex environments, ensuring that updates are installed successfully in all IMS systems at the same time, and that resource definitions are kept in sync with other members of the IMSPlex.

IMS High Performance System Generation Tools include the capability to:

- Display IMS resource definitions – either those currently being used by IMS or as defined in the MODBLKS data set – and all the attributes associated with the definitions.
- Validate IMS sysgen source without the overhead of running an IMS sysgen.
- Perform an IMS MODBLKS type sysgen without the overhead of the IMS sysgen process. IMS High Performance System Generation Tools Fastgen process duplicates the MODBLKS sysgen process using 90% less CPU and elapsed time. The Fastgen process can be run either as a batch job, or from the IMS High Performance System Generation Tools ISPF panels.
- Recreate IMS sysgen source and/or security gen source from the MODBLKS / MATRIX data sets.
- Recreate IMS sysgen source and/or security gen source from the MODBLKS / MATRIX data sets.
- View IMS control region storage and control blocks, and even zap storage in the IMS control region.
- Use the IMS High Performance System Generation Tools' History Log to review which resources were updated by which userid, and when the update was installed.
- Convert IMS High Performance System Generation Tools History Log entries to IMS sysgen macros, which can be used to update IMS sysgen source to keep source in sync with the running IMS system.
• Back out one or more resource updates, restoring the definitions to the state they were in before an update was installed.
• Create SMP/E JCLIN source statements from a MODBLKS data set.
• Create an installable list of resource updates to synchronize the running IMS system with the updated IMS sysgen source.
• Compare different MODBLKS data sets to identify any differences in the IMS resource definitions.

The functions provided by IMS High Performance System Generation Tools are protected by your security subsystem, and can be customized to work within your local change control procedures.

**IMS HP Sysgen Tools components**

IMS HP Sysgen Tools consists of several components.

In this topic:

- “ISPF interface”
- “IMS system definition”
- “Resource Update Lists” on page 7
- “IMS High Performance System Generation Tools utilities” on page 8
- “History log” on page 10
- “JCLIN generator” on page 10

**ISPF interface**

IMS HP Sysgen Tools provides an ISPF interface.

**IMS commands**

From the ISPF interface, users can issue any authorized IMS command. The command response is displayed at your workstation.

**JCL generator:**

The ISPF interface contains a JCL generator for a number of IMS HP Sysgen Tools batch utilities.

The Utility option on the IMS HP Sysgen Tools main menu provides the capability to generate JCL for batch utilities such as:

- Batch verify
- Install
- Resource update list
- Fast Sysgen
- MODBLKS compare
- Resource Update List generation jobs that create Resource Update Lists to synchronize your running IMS system with your IMS sysgen source

**IMS system definition**

An IMS system definition is used by the IMS system generation (sysgen) process to create or modify IMS online and batch environments.
There are several types of system definitions you can use to make changes to an IMS system environment. The type of definition, and subsequent sysgen, depends on the changes you want to implement. Adding new features and functions typically requires a NUCLEUS, ALL, or online sysgen. Making changes to communication definitions typically requires a CTLBLKS type sysgen. Adding or changing application resources (transactions, programs, databases, and route codes) typically requires only a MODBLKS type system definition.

In many environments, periodic IMS sysgens are required to implement changes to the application definitions for each IMS system. These changes can be accomplished with an IMS MODBLKS system definition. Depending on the number of application resources defined to a particular IMS system, the MODBLKS sysgen process can take a significant amount of time, machine resources, and personnel resources. The typical IMS sysgen involves at least 4 jobs, including stage 1, stage 2, security, and installation (possibly with the IMS Online Change utility).

The stage 2 job stream is created by the stage 1 sysgen process, and might have to be edited to conform to installation requirements after the stage 1 job completes.

In addition to an IMS sysgen, if IMS internal Security Maintenance Utility (SMU) security is used in IMS version 9.1, or earlier, an IMS security gen is required each time an IMS sysgen is performed. SMU security is used to define the following:

- IMS password security
- Terminal security
- Signon security
- AGN security
- Transaction command authorization

**Resource Update Lists**

A Resource Update List is a group of IMS sysgen changes that are implemented simultaneously. You can add new resources to a Resource Update List, or you can edit or delete existing resources. A Resource Update List can be created in advance by one user and then installed later by a different user.

Resource update list technology provides an incremental sysgen change function. You can create multiple Resource Update Lists in any order and implement them in any order days or weeks later. Each Resource Update List is installed independently. When a Resource Update List is installed, only the resources that are specified in the Resource Update List entries are updated. All other resource definitions remain as they were defined before the installation of the Resource Update List.

A Resource Update List can be installed in either a single IMS system or a group of IMS systems. Even if global online change is enabled, a Resource Update List can be installed for only a single IMS in the global online change configuration. A group can include any combination of local online change, global online change, or IMSplex systems. When verifying or installing a Resource Update List, you can specify either a specific IMSID to install on a single IMS subsystem, or an IMS HP Sysgen Tools group name to install the update list on multiple IMS systems simultaneously.
IMS Resource Definition

IMS HP Sysgen Tools enhances the resource definition and maintenance features that are provided by IMS.

By using the IMS online change process, you can define and maintain shared resource definitions among multiple IMS systems. IMS HP Sysgen Tools supports the Global Online Change feature of IMS. You can use IMS HP Sysgen Tools to install a resource update list to a group of IMS systems. Therefore, you can easily maintain duplicate resource definitions among such groups.

By using the IMS Dynamic Resource Definition (DRD), you can dynamically define and maintain IMS resource definitions. IMS HP Sysgen Tools supports DRD-enabled environments that use Resource Definition Data Sets (RDDS). You can use resource update lists to stage changes and implement them later as a group.

IMS High Performance System Generation Tools utilities

IMS HP Sysgen Tools provides the Sysgen utility, Merge Clone utility, and the Fast Sysgen utility.

Fast Sysgen utility

IMS HP Sysgen Tools provides a Fast Sysgen utility that performs an IMS MODBLKS sysgen in a fraction of the time used by the standard IMS sysgen process or the IMS LGEN process, and is easier to administer.

The Fastgen batch utility provides the ability to perform a MODBLKS type IMS sysgen and security gen in a single step job.

IMS HP Sysgen Tools also provides an ISPF interface that allows incremental updates to IMS system definitions. Use the ISPF interface to define a list of IMS sysgen changes, verify that the changes do not cause IMS system conflicts, and implement the changes. Any authorized user can perform the changes at any time after the list of changes is saved.

Additionally, the ISPF interface provides the ability to perform the following IMS sysgen related tasks:

- Review existing resource definitions
- Reverse IMS MODBLKS and MATRIX modules into IMS sysgen and security gen source code
- Validate IMS sysgen source
- Perform a Fast Sysgen
- Review IMS sysgen changes implemented via the HP Sysgen product
- Issue IMS commands

IMS system data set integrity is preserved using the same mechanisms that IMS uses in its sysgen and online change processes. The IMS staging library's integrity is ensured by using a hardware reserve with the same QNAME as the linkage editor or binder. The active and inactive libraries' integrity is preserved by using the IMS online change global enqueue process. In addition, you can control which libraries are updated by the batch utility (the staging library, inactive library, or A or B libraries) with a simple parameter in the Fast Sysgen JCL.
**Merge Clone utility**

The Merge Clone utility can be used to assist in adding new IMS regions to an existing configuration, merging existing IMS regions together, or ensuring APPLCTN, TRANSACT and DATABASE macro definitions remain consistent across all IMS regions in a data sharing environment.

**Related information:**

Chapter 14, “Using the Merge Clone utility,” on page 195

The Merge Clone utility creates a common set of application, transaction, and database definitions across multiple IMS systems.

**Merging:**

The merging process takes two or more IMS regions running separate applications and combines the application, transaction, and database definitions together.

A merge results in the same number of IMS regions, but all of them would contain the same number (and names) of APPLCTN, TRANSACT and DATABASE macro definitions. As part of the process, the Merge Clone utility will build the MSC routing definitions for each transaction. It does this by analyzing each PSB from the PSBLIB and determining which IMS system has database access that meets the PSB’s PROCOPT requirements.

**Cloning:**

If you are running an IMS database-level data sharing environment, you can use Merge Clone to add (“clone”) new IMS regions to your configuration.

By running the Merge Clone process, you can build the entire application, transaction and database definitions for a new region, complete with the MSC routing definitions. Again, the utility will determine the routing by analyzing the PSBs and determining which IMS system has the database access that meets a PSB’s PROCOPT requirements.

If you are running a data sharing environment, you can use Merge Clone to keep your IMS systems synchronized. The process will ensure that all systems have the same applications, transactions, and databases defined. It will also ensure that resources are defined consistently across systems because a resource will be defined with the same parameters in all systems.

**Sysgen utilities**

IMS HP Sysgen Tools provides the Sysgen Compare and Reverse Sysgen utilities.

**Sysgen Compare utility:**

The Sysgen Compare utility provides the ability to compare two sets of MODBLKS and MATRIX data sets and determine whether any differences exist, identifying any resource definitions that differ.
Related information:
Chapter 11, “Using Sysgen Compare,” on page 181
IMS HP Sysgen Tools includes a Sysgen Compare utility that lets you compare two sets of IMS control blocks. You can use this utility to verify that two sets of MODBLKS and MATRIX modules are exactly the same.

Reverse Sysgen utility:
IMS HP Sysgen Tools provides a reverse sysgen capability for both IMS sysgen and security gens. You can create source for both IMS features from the MODBLKS, MATRIX, and RESLIB libraries.

Related information:
Chapter 12, “Batch Reverse Sysgen utility,” on page 185
The IMS HP Sysgen Tools generates HP sysgen source macros from either the in core IMS control blocks or from the active IMS MODBLKS data set.

History log
IMS HP Sysgen Tools includes a history log for resource changes installed using Resource Update Lists.

You can use the history log to review when resource definitions were changed, and by which user ID. Another report option builds IMS stage 1 macro definitions that can be used to update IMS sysgen source to ensure that gen source matches current resource definitions.

JCLIN generator
The JCLIN generator provides a way to create SMP/E JCLIN input from a MODBLKS data set. This allows you to run a JCLIN before SMP/E maintenance is applied.

Hardware and software requirements
Before you install and configure IMS HP Sysgen Tools, make sure that your environment meets the following minimum hardware and software requirements.

Hardware prerequisites
IMS HP Sysgen Tools is designed to operate in any hardware environment that supports any supported release of IMS.

Software prerequisites
IMS HP Sysgen Tools is designed to operate with any version of z/OS® that supports the version of IMS that you are running. All supported releases of IMS are supported by IMS HP Sysgen Tools.

Security and auditability
IMS HP Sysgen Tools uses the security and auditability features of the z/OS operating system and IMS system under which the tools execute. You must evaluate, select, and implement security features, administrative procedures, and appropriate controls in application systems and communication facilities. Use of
the Fast Sysgen utility might require changes to the security definitions of some IMS system data sets. These changes are discussed in Chapter 2, “Configuring IMS HP Sysgen Tools,” on page 15.

Service updates and support information

Service updates and support information for this product, including software fix packs, PTFs, Frequently Asked Question (FAQs), technical notes, troubleshooting information, and downloads, are available from the Web.

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

IMS HP Sysgen Tools 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 Support service.

IMS HP Sysgen Tools information on the web

The IMS Tools Product publications web page provides current product documentation that you can view, print, and download. To locate publications with the most up-to-date information, refer to the following web page:
http://www.ibm.com/software/data/db2imstools/imstools-library.html

You can also access documentation for many IMS Tools from the Information Management Software for z/OS Solutions Information Center:
http://publib.boulder.ibm.com/infocenter/imzic

IBM Redbooks® publications that cover IMS Tools are available from the following web page:
http://www.redbooks.ibm.com

The Data Management Tools Solutions website shows how IBM solutions can help IT organizations maximize their investment in IMS databases while staying ahead of today’s top data management challenges:

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To automatically receive automated emails that notify you when new technote documents 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/mysupport
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.

**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 IMS HP Sysgen Tools enable users to:

- 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, SC34-4822
  - z/OS TSO/E Primer, SA22-7787
  - z/OS TSO/E User's Guide, SA22-7794

These guides describe how to use ISPF, 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.
Part 2. Configuring the IMS HP Sysgen Tools

This section describes the procedures for configuring IMS™ HP Sysgen Tools for your installation.
Chapter 2. Configuring IMS HP Sysgen Tools

Configuration procedures are described separately for the IMS command interface and the ISPF Interface. Most users prefer the ISPF interface. IMS HP Sysgen Tools Version 1 users can install both interfaces; each functions independently. However, the ISPF interface provides improved functionality. If you are using Version 1, you should consider migrating from the IMS interface to the ISPF interface.

Topics:
- “Target libraries available after installation”
- “Setting up the environment”
- “Configuring the ISPF interface” on page 16
- “Fast Sysgen control cards for IMS command interface” on page 34
- “IMS command interface configuration” on page 39

Target libraries available after installation

The target libraries are populated when IMS HP Sysgen Tools completes installation.

Software installation is documented in the IMS HP Sysgen Tools Program Directory. When installation is completed, the following target libraries are populated:

- hlq.IOH230.SIOHEXEC
- hlq.IOH230.SIOHLINK
- hlq.IOH230.SIOHMACS
- hlq.IOH230.SIOHMENU
- hlq.IOH230.SIOHPENU
- hlq.IOH230.SIOHSAMP
- hlq.IOH230.SIOHSENU
- hlq.IOH230.SIOHTENU

Setting up the environment

You need to set up the IMS HP Sysgen Tools before using all of the features.

Procedure

To use all features of IMS HP Sysgen Tools, you must complete the following steps:

1. The SIOHLINK library must be APF authorized.
2. IMS online change must be enabled in all IMS subsystems. This change can either be a local or a global change.
3. Each IMS control region must have unique MODBLKSA, MODBLKSB, MATRIXA, and MATRIXB data sets; that is, the MODBLKS data set cannot be used in both the MODBLKSA and MODBLKSB DD statements.
4. The SIOHLINK library (or the DSN specified for SIOHLINK in the IOHTPADD job) must be APF authorized.
Results

Attention: Use caution if you plan to copy the SIOHLINK library into a "program product" load library which is also in the IMS control region STEPLIB. Placing the SIOHLINK modules in the IMS STEPLIB will activate the IMS command interface. If you do not intend to use the IMS command interface, you can avoid activating it by removing the DFSPPUE0 alias to module IOHPPUE0 in all data sets in the IMS control region STEPLIB.

Configuring the ISPF interface

The IMS HP Sysgen Tools ISPF interface requires no changes to the IMS control region JCL or software. It can be configured without impact to the IMS online system, and it does not require that IMS be stopped or restarted to install IMS HP Sysgen Tools.

About this task

IMS HP Sysgen Tools uses APPC/MVS to run functions on the same MVS system(s) where targeted IMS subsystems are running. APPC/MVS allows a request from a TSO user on one MVS system to start IMS HP Sysgen Tools software on the MVS system where the target IMS subsystem is running. IMS HP Sysgen Tools software which is running on the proper MVS system can then access IMS control blocks using access registers and common storage. APPC/MVS is required to use IMS HP Sysgen Tools.

IMS HP Sysgen Tools also uses APPC/IMS to issue IMS commands if APPC/IMS is active in the target IMS subsystem. APPC/IMS is not required to use IMS HP Sysgen Tools.

Perform the following steps to enable the ISPF interface:

1. If not already active, activate APPC/MVS. For more detail, see Step 1.
2. Find the APPC/MVS base LU name on each MVS system where IMS runs. For more detail, see Step 2. Locate the APPC/MVS base LU names” on page 19.
3. Find an appropriate APPC initiator class. For more detail, see Step 3. Find an APPC initiator class” on page 19.
4. If not already present, define to APPC/MVS a symbolic destination (SYMDEST) for each MVS image where an IMS control region with IMS HP Sysgen Tools will reside. There is no need to create a separate SYMDEST for IMS HP Sysgen Tools; any existing definition can be used. SIOHSAMP member IOHSIADD, provides a sample batch job to define an APPC/MVS symbolic destination. For more detail, see Step 4. Define APPC/MVS symbolic destinations” on page 20.
5. Allocate the IOHPDS library, which stores user-created Resource Update Lists, and the IOHOPT library, which stores the options for each IMS control region. Allocate an IOHLOG data sets for each IMS subsystem which does not already have a log data set. For more detail, see Step 5. Allocate libraries” on page 20.
7. Copy SIOHEXEC member IOHXISP from the SIOHEXEC library to a
   CLIST/REXX library accessible to the IMS HP Sysgen Tools user community.
   Update the data set names in the IOHXISP EXEC to reflect the data set
   names chosen for the target libraries. For more detail, see “Step 7. Copy
   IOHXISP to CLIST/REXX library” on page 22.

8. Define the required security profiles to limit end-user capabilities to edit and
   install Resource Update Lists, issue IMS commands, and review IMS control
   region storage. For more detail, see “Step 8. Define security profiles” on page
   22.

9. Define the IMS HP Sysgen Tools authorized user ID, and ensure that this new
   user ID has security authorization to the appropriate data sets and IMS
   commands, as described in “Step 9. Create an IMS HP Sysgen Tools
   authorized user ID” on page 24.

10. Review IMS parameter values for AOIS and CMDMCS values in DFSPBxxx.
    For additional detail, see “Step 10. IMS requirements” on page 21.

11. Add an APPLCTN definition for IMS HP Sysgen Tools to IMS. For more
    detail, see “Step 11. Add APPLCTN for IMS HP Sysgen Tools” on page 25.

12. Optionally, add IMS HP Sysgen Tools to a user ISPF menu. For more detail,
    see “Step 12. Optional: Add IMS HP Sysgen Tools to a user menu” on page
    25.

13. Ensure that the APPC/MVS security requirements for this environment are in

Use the ISPF interface to define the options for each IMS subsystem that will be
accessed using this interface, as described in “Setup IMS HP Sysgen Tools options”
on page 28.

Configuration procedures
Each configuration procedure is described in detail in the following sections.

Step 1. Activate APPC/MVS
Advanced Program-to-Program Communication/MVS (APPC/MVS) must be
active on all MVS systems where either IMS runs, or where an IMS HP Sysgen
Tools TSO user might logon.

Before you begin
Determine whether APPC is active or not by issuing the MVS command
APPC,LU,ALL. If APPC/MVS is already active, you can skip this step and go on to
“Step 2. Locate the APPC/MVS base LU names” on page 19.

About this task
If your installation has not yet implemented APPC/MVS, you can find helpful
information in MVS/ESA SP V4 Planning: APPC Management, GC28-1110. This
publication describes how to define and manage APPC/MVS and defines
parameters specified in the TPADD and Side Information Add (SIADD) processes.

APPC uses a VTAM® SNA network and LU6.2 protocol to communicate between
two application programs on the same or two different hosts, such as:
• z/OS
• VM/ESA
• AS/400®
• Workstations running OS/2
Procedure

To set up APPC/MVS:

1. Set up the APPC and ASCH started tasks (started by an operator command).
   The APPC address space controls APPC/MVS communication functions. The
   ASCH address space is where APPC transaction programs are scheduled.
   Here is a sample APPC procedure:

   ```
   //APPC PROC APPC=00
   //APPC EXEC PGM=ATBINITM,PARM='APPC=&APPC',REGION=OK
   ```

   Here is a sample ASCH procedure:

   ```
   //ASCHC PROC ASCH=00
   //ASCHC EXEC PGM=ASBSCHIN,PARM='ASCH=&ASCH',REGION=OK
   ```

2. Set up member ASCHPMxx in SYS1.PARMLIB. This member defines classes
   and scheduling characteristics for transaction programs scheduled in the ASCH
   address spaces.
   Here is a sample ASCHPMxx member:

   ```
   CLASSADD CLASSNAME(A) MSGLIMIT(1000) MAX(10) MIN(1) RESPGOAL(1)
   CLASSADD CLASSNAME(OPERMVS) MAX(300) MIN(15) RESPGOAL(1)
   CLASSADD CLASSNAME(FAST) MAX(10) MIN(2) RESPGOAL(.01)
   ```

3. Set up member APPCPMxx in SYS1.PARMLIB. This member defines the
   APPC/MVS local logical unit names (LU names) and the data set names of the
   APPCTP and SIDEINFO data sets.
   Here is a sample APPCPMxx member:

   ```
   LUADD ACBNAME(MVSLU01) BASE TPDATA(SYS1.APPCTP)
   SIDEINFO DATASET(SYS1.APPCSI)
   ```

4. Define the APPC/MVS base LU name to VTAM. The ACBNAME defined to
   VTAM must match the ACBNAME specified in the APPCPMxx member of
   PARMLIB. The VTAM LU name (the label field of the APPL statement) should
   be unique within your installation. IMS HP Sysgen Tools require one LU name
   for each z/OS MVS system on which an IMS subsystem is running. The LU
   name can be any name, and it must be specified not only in the VTAM
   definition, but also in the LUADD statement, as shown in step 3 and in the
   statements that define the side info entry shown here:
<table>
<thead>
<tr>
<th>MVSLU01 APPL</th>
<th>ACBNAME=MVSLU01, C</th>
<th>APPC=YES, C</th>
<th>AUTOSES=0, C</th>
<th>DORAINL=NALLOW, C</th>
<th>MODETAB=LOGMODES, C</th>
<th>DLOGMOD=APPCHOST, C</th>
<th>DMINWL=5, C</th>
<th>DMINWNR=5, C</th>
<th>DRESPL=NALLOW, C</th>
<th>DSESLLIM=10, C</th>
<th>LMDENT=19, C</th>
<th>PARSESS=YES, C</th>
<th>SECACPT=ALREADYV, C</th>
<th>SRBEXIT=YES, C</th>
<th>VPACING=1</th>
</tr>
</thead>
</table>

Note:

a. The values specified for MODETAB and DLOGMOD are dependent on your installation’s logmode table entries. An LU 6.2 logmode entry must be available for these parameters.

b. DLOGMOD SNASVCMDG is not permitted by APPC/MVS.

c. You can specify SECACPT as a valid VTAM value. If it is specified as other than ALREADYV or AVPV, then additional security definitions are required to ensure that the requesting user ID is propagated to the APPC initiator on the MVS system where IMS executes. For more information, refer to “Step 13. APPC/MVS Security Requirements” on page 25.

Step 2. Locate the APPC/MVS base LU names

The APPC/MVS base LU names are required for later steps in the ISPF configuration.

Procedure

To find the APPC/MVS base LU names:

1. Issue MVS command D APPC,LU,ALL and find the LLUN (LU name) that has both SCHD=ASCH and BASE=YES for each MVS system where an IMS subsystem runs.

2. Record the LLUN and the TP profile data set name for each MVS system. For example:

   LUADD ACBNAME(data set name) BASE TPDATA(data set name)

   These data set names are used in “Step 6. Define APPC/MVS transaction program profile for IMS HP Sysgen Tools” on page 21.

3. Record the name of the APPC/MVS side info data set name. For example:

   SIDEINFO DATASET(data set name)

   This data set name is used in “Step 4. Define APPC/MVS symbolic destinations” on page 20.

Step 3. Find an APPC initiator class

The APPC initiator class is required for later steps in the ISPF configuration.
Before you begin

The APPC initiator class that you use must be able to concurrently schedule at least 1 more than the number of IMS subsystems on that MVS system. For example, if an MVS system has 3 IMS subsystems executing, the APPC initiator class must be able to schedule at least 4 tasks concurrently (MAX=4).

Procedure

To find an APPC initiator class:

Issue the MVS command D ASCH,ALL to list the APPC initiator classes defined on each MVS system. The initiator class name is used in Step 6. Define APPC/MVS transaction program profile for IMS HP Sysgen Tools on page 21.

Step 4. Define APPC/MVS symbolic destinations

A symbolic destination (SYMDEST) is required to use the IMS HP Sysgen Tools ISPF interface.

Before you begin

• Each MVS system where an IMS subsystem runs requires a unique SYMDEST. This definition might be shared with other APPC applications, therefore, it does not need to be specific to IMS HP Sysgen Tools.
• MODENAME SNASVCMG is not permitted by APPC/MVS.
• The value of the DESTNAME parameter should be chosen to represent an MVS system, not a specific IMS system.
• All IMS subsystems present on an MVS image should use the same destination name.
• The MODENAME parameter should be the same as the DLOGMOD in the APPC/MVS APPL definition.
• The PARTNER_LU name is the name of the MVS base LU name found in Step 2. Locate the APPC/MVS base LU names on page 19 for the destination MVS system.
• A SYMDEST definition must be present on every MVS system where the ISPF interface can be used to access an IMS subsystem, including a symbolic destination for an MVS system on that system, itself.

Procedure

To define the symbolic destination name:

Modify the DESTNAME(symbolic destination name) parameter in your JCL. For a sample definition, see the IOHSIADD member of the SIOHSAMP library.

Step 5. Allocate libraries

The IOHPDS, IOHOPT, and IOHLOG libraries must be allocated.

Before you begin

Because these data sets are not IMS HP Sysgen Tools release specific, the product release should not be included in the data set names.

The job IOHALCDS in the SIOHSAMP data set contains sample JCL for the allocation of these data sets.
Procedure

Allocate one copy of these libraries per shared DASD environment. They can be shared among multiple IMS systems and multiple MVS systems:

**IOHPDS**

This data set is used to store Resource Update Lists created by users.

**Important:** Communicate this data set name to end users because they will have to enter it on the IMS HP Sysgen Tools Primary Options menu.

**IOHOPT**

This data set contains the IMS options definitions. This data set is also specified in SIOHSAMP member IOHTPADD, and in REXX EXEC IOHXISPF in the SIOHEXEC library.

**IOHLOG**

This data set contains information about implemented changes to resource definitions. This data set is required for each IMS control region. Each IMS subsystem should have a unique log data set. The sample job IOHALOG in the SIOHSAMP data set contains sample JCL to allocate an IOHLOG data set. Use this sample job to allocate logs for each IMS subsystem.

**Step 6. Define APPC/MVS transaction program profile for IMS HP Sysgen Tools**

Each APPC transaction program (TP) has a TP profile defined to APPC/MVS.

**Before you begin**

The TP profile definition must be defined on every MVS system where an IMS subsystem runs that will be accessed by the ISPF interface of IMS HP Sysgen Tools. In an environment where multiple MVS systems share a single TP profile (APPCTP) data set, this definition needs to be defined only once.

**About this task**

The TP profile definitions are stored in the APPC TP profile data set. You can define a TP profile using a batch job (a sample batch job is provided) or using the APPC/MVS ISPF interface.

IMS HP Sysgen Tools uses one transaction program, which is a batch job to define the required transaction profile is included in SIOHSAMP member IOHTPADD. The job contains JCL that is used to run the batch utility and contains JCL in the SYSIN DD DATA input stream. The data set names included in the SYSIN stream must be customized for your installation. The SYSIN stream includes entities such as the SIOHLINK and IOHOPT library data set names, as well as the APPC TP Profile DSN (obtained in “Step 2. Locate the APPC/MVS base LU names” on page 19), and the APPC initiator class (obtained in “Step 3. Find an APPC initiator class” on page 19).

The SYSIN stream must be modified to include:

- The SIOHLINK and IOHOPT library data set names
- The APPC TP Profile DSN shown in the TPDATA value (obtained in “Step 2. Locate the APPC/MVS base LU names” on page 19), which is associated with the APPC/MVS base LU name
The APPC initiator class (obtained in ["Step 3. Find an APPC initiator class" on page 19])

A default TP profile name, IOH220.IMS_HP_SYSGEN, is specified in the sample job. You can change the TP profile name to match an existing TP profile name or to conform to installation standards.

**Important:** If you change the TP profile name, you must specify the new name in the APPC/MVS HP Sysgen TPName field option of the IMSID of every IMS system. For information on setting up the IMSID options and the TP name field, see ["Setup IMS HP Sysgen Tools options" on page 28].

**Procedure**

To define the TP profile name:

Modify the TPNAME(*TP profile name*) parameter in your JCL.
For a sample definition, see the IOHTPADD sample member in the SIOHSAMP data set.
If this job ends with condition code 8, there is not necessarily an error. If the TPNAME was not defined previously, the following messages may be generated by TPDELETE. These can be ignored.

ATB323I Processing of TPDELETE request has begun.
ATB371I Specified TP profile not found.
ATB311I TPDELETE request failed

**Step 7. Copy IOHXISPF to CLIST/REXX library**

The IOHXISPF REXX EXEC must be copied to a CLIST or REXX EXEC library that is accessible to the IMS HP Sysgen Tools user community.

**About this task**

Copying the IOHXISPF REXX EXEC allows an end-user to type IOHX0SPF to start an IMS HP Sysgen Tools ISPF session.

**Procedure**

1. Copy the IOHXISPF REXX EXEC to a CLIST or REXX EXEC library.
2. Customize the EXEC to reflect the appropriate installation data set names for the IMS HP Sysgen Tools target libraries. The following statements must be updated:

   **For SMP/E target libraries:**
   - IOHEXEC = hlq.IOH230.SIOHEXEC
   - IOHLLIB = hlq.IOH230.SIOHLINK
   - IOHMLIB = hlq.IOH230.SIOHMENU
   - IOHPLIB = hlq.IOH230.SIOHPENU
   - IOHSLIB = hlq.IOH230.SIOHSENU
   - IOHTLIB = hlq.IOH230.SIOHTENU

   **For IOHOPT in the SIOHSAMP IOHALCDS job:**
   - IOHOPT = hlq.IOH.IOHOPT

**Step 8. Define security profiles**

IMS HP Sysgen Tools uses five types of security profiles to determine if a user is permitted to perform a function.
Before you begin

Each IMS subsystem can have a different set of permissions, or all IMS subsystems can share the same definition by using a generic resource profile, for example, IOH.EDIT.*

Each profile includes an IMSID field as the last qualifier of the resource name. If all IMS subsystems have the same access list, a generic profile can be defined instead of multiple profiles for each IMS subsystem on the MVS image.

Access to these resources is checked only on the MVS system where the IMS subsystem runs, not on the MVS system where the TSO user is logged on.

Procedure

Define the following profiles in the FACILITY class:

**IOH.SETUP**
This profile defines which users have the authority to use the Profile and User options in IMS HP Sysgen Tools's setup menu. This profile should be restricted to those who administer IMS HP Sysgen Tools.

**IOH.EDIT.imsid**
This profile defines users who can edit Resource Update Lists. Edit capability is checked only when retrieving existing resource definition information from an IMS subsystem.

Access of READ or higher allows the user to edit a Resource Update List.

Access of NONE causes any requests for IMS resource information to be denied.

**IOH.CHECK.imsid**
This profile defines users who can check Resource Update Lists.

Access of READ or higher allows the user to check a Resource Update List.

Access of NONE causes any requests to check a Resource Update List to be denied.

**IOH.INSTALL.imsid**
This profile defines users who can install Resource Update Lists.

Access of READ or higher allows the user to install Resource Update Lists.

Access of NONE causes any requests to install a Resource Update List to be denied.

**IOH.IMSCMD.imsid**
This profile defines users who can use the IMS command option of the IMS HP Sysgen Tools ISPF menu.

Access of READ or higher allows the user to issue IMS commands for the specified IMSID.

Access of NONE causes any requests to issue an IMS command to be denied.

**IOH.STORAGE.imsid**
This profile defines users who are authorized to view or update IMS storage using the storage Display and Update ISPF option.
Access of UPDATE or higher allows a user to change (zap) IMS storage. Because this could cause significant problems, access to change storage should be limited to authorized personnel.

Access of READ or higher allows a user to display storage used by IMS, but not to update it.

Access of NONE prohibits a user from viewing or updating storage used by the IMS system.

For a sample job that shows how to define resources to RACF® and permit users access to the resources, see member IOHRACF in the SIOHSAMP data set.

Step 9. Create an IMS HP Sysgen Tools authorized user ID

If you do not have authorization to the required resources, HP Sysgen provides a special “authorized user ID” that allows you to perform the functions required during the resource update list install process.

Before you begin

- If every HP Sysgen user who has authorization to install a resource update list also has authority to the resources, you can skip the steps below and instead specify an asterisk (*) for the authorized user ID in the IMSID setup options. When an asterisk is specified, HP Sysgen uses the requesting user ID instead of the authorized user ID to perform a resource update list install.
- The authorized user ID is only used in the APPC/MVS initiator address space.

About this task

IMS HP Sysgen Tools allows you to install a resource update list without the required security authorization to update APF-authorized libraries, including the MODBLKS and MATRIX data sets, or IMS commands such as /MODIFY, /START, and /ASSIGN that are used during the resource update list install process.

Procedure

To create an authorized user ID:

1. Define a new user ID and allow the user ID to:
   - Issue all IMS commands
   - Update the MODBLKS and MATRIX data sets
   - Read SIOHLINK, IOHOPT, and IMS RESLIB data sets
   - UPDATE access to MODBLKS, MODBLKSA, MODBLKSB, MATRIX, MATRIXA, and MATRIXB
   - READ access to the RESLIB, MODSTAT/OLCSTAT, IOHOPT, and SIOHLINK data sets
   - UPDATE access to the IOHLOG data set of each IMS system

   **Recommendation:** Use IOHAPPC as the authorized user ID name, because this name matches the job name used in the APPC/MVS initiator.

2. Specify the authorized user ID in the IMSID setup options for each IMS control region.

Step 10. Verify IMS requirements

Verify that IMS HP Sysgen Tools conforms to the IMS requirements.
Procedure

- Ensure that the AOIS parameter value specified in IMS PROCLIB member DFSPBxxx is set to A, C, or R.
- Ensure that the CMDMCS parameter in the IMS PROCLIB member DFSPBxxx does not specify value N. IMS HP Sysgen Tools uses the IMSID command recognition character to issue /MODIFY commands.

Step 11. Add APPLCTN for IMS HP Sysgen Tools

IMS HP Sysgen Tools might require an IMS APPLCTN definition in the IMS sysgen.

About this task

Although a PSB is used only when APPC/IMS is not active, defining this resource provides you with a backup in the event that APPC is not available.

Procedure

Add the following definition to the IMS stage 1 sysgen source:

Use batch Fastgen (or an IMS MODBLDS gen) and online change to install this definition.

APPLCTN GSPB=IOHCMD,PGMTYPE=BATCH

Step 12. Optional: Add IMS HP Sysgen Tools to a user menu

Optionally, you can modify a user menu to include the option to invoke the IMS HP Sysgen Tools ISPF interface.

About this task

If you do not update a user menu, the ISPF interface can be accessed using TSO command %IOHXISPF.

Procedure

To add the option to invoke the a user menu from the IMS HP Sysgen Tools ISPF interface:
1. Update the menu to add an option for IBM IMS HP Sysgen Tools.
2. In the &ZSEL section, translate the selection option to CMD(%IOHXISPF).

Step 13. APPC/MVS Security Requirements

You must set up APPC/MVS LU definitions to provide automatic propagations so that APPC/MVS can propagate the requestor’s security user ID from the TSO session (or batch job) to the APPC/MVS initiator where HP Sysgen executes.

Before you begin

If all of the LU definitions in VTAMLST specify SECACPT=ALREADYV (or SECACPT=AVPV), there is no need to define any additional security profiles.

If the SECACPT= values specified in VTAMLST do not already specify ALREADYV or AVPV, you must either change the keyword definitions in the VTAM definition list or define resource class APPCLU profiles to your security system that permit you to override the SECACPT= value for a conversation between two specific LU names.
Important:

- Changing the keyword definitions can potentially affect other APPC applications that are running in your environment.
- Defining APPCLU profiles requires multiple RACF definitions and can be complicated to update when a new MVS LPAR must be added to your environment.

Define resource class APPCLU profiles to your security system:

You can define class APPCLU profiles that allow you to specify SECACPT=ALREADYV (or SECACPT=AVPV).

About this task

You can define class APPCLU profiles that permit you to override the SECACPT= value for a conversation between two specific LU names. Defining APPCLU profiles allows you to override the SECACPT= value specified on the VTAM APPL definition. The profile name includes both LU names involved in the session. The format of the profile name is either:

- net-id.local-lu-name.remote-lu-name
- net-id.local-lu-name.net-id.remote-lu-name

Where:

net-id    The network ID.

local-lu-name
          The base LU name for APPC/MVS.

remote-lu-name
          The base LU name for IMS APPC LU.

Procedure

To define a security profile:

1. Determine the LU name by issuing a D APPC,LU,ALL command. The display output shows all of the LU names defined to APPC on that MVS LPAR.

   In this example, the local-lu-name is shown in the line that contains SCHED=ASCH and BASE=YES (in this example, LLUN=MVSLU01). The remote-lu-name is shown in the line that contains SCHED=imsid and BASE=YES (in this example, LLUN=IMS9PPC).

   D APPC,LU,ALL
   ATB1211   12.05.30   APPC DISPLAY 796
   ACTIVE LU'S  OUTBOUND LU'S  PENDING LU'S  TERMINATING LU'S
   00006  00000  00006  00000
   SIDEINFO=SYS1.APPCSI
   LLUN=IMS9PPC  SCHED=IMS9  BASE=YES  QCN=NO
     STATUS=ACTIVE  PARTNERS=00001  TLEVEL=SYSTEM  SYNCPT=NO
     GRNAME=NONE*  RNAME=NONE*  TPDATA=SYS1.APPCTP
     PLUN=ADCD.MVSLU01
   LLUN=MVSLU01  SCHED=ASCH  BASE=YES  QCN=NO
     STATUS=ACTIVE  PARTNERS=00004  TLEVEL=SYSTEM  SYNCPT=NO
     GRNAME=NONE*  RNAME=NONE*  TPDATA=SYS1.APPCTP
     PLUN=ADCD.IMP9PPC
     PLUN=ADCD.IMS8PPC
     PLUN=ADCD.IMS9PPC
     PLUN=ADCD.MVSLU01
2. Determine the net-id by issuing the command `D NET,ID=luname`.

   For example:
   ```
   D NET,ID=MVSLU01
   IST097I DISPLAY ACCEPTED
   IST075I NAME = ADCD.MVSLU01, TYPE = APPL 803
   ```

   The IST075I message in the display output shows the net-id just before the LU name. In this example, the LU name displayed is MVSLU01, so the net-id is ADCD.

3. Determine the format of the profile name by the NQN= value.

   - If the LU names specify NQN=NO, then the profile name used is `net-id.local-lu-name.remote-lu-name`.
   - If NQN=YES is shown, then the profile name used must include the net-id (network ID) twice, as in `net-id.local-lu-name.net-id.remote-lu-name`.

   a. Optional: Define both forms of the APPCLU profiles. If this is done when the profiles are initially defined, a change in the NQN specification does not require changes in the defined security profiles. For the example:

      - If you specify NQN=NO
        ```
        ADCD.MVSLU01.MVSLU01
        ADCD.MVSLU01.IMS9PPC
        ADCD.IMS9PPC.MVSLU01
        ```
      - If you specify NQN=YES
        ```
        ADCD.MVSLU01.ADCD.MVSLU01
        ADCD.MVSLU01.ADCD.IMS9PPC
        ADCD.IMS9PPC.ADCD.MVSLU01
        ```

4. Define the security profiles by specifying a value for SESSION CONVSEC of ALREADYV (or AVPV). If you use the RACF program product, the format of the command to define these profiles is (for an NQN=NO environment):

   ```
   RDEFINE APPCLU (ADCD.MVSLU01.MVSLU01) UACC(NONE) SESSION(CONVSEC(ALREADYV))
   RDEFINE APPCLU (ADCD.MVSLU01.IMS9PPC) UACC(NONE) SESSION(CONVSEC(ALREADYV))
   RDEFINE APPCLU (ADCD.IMS9PPC.MVSLU01) UACC(NONE) SESSION(CONVSEC(ALREADYV))
   ```

   **Important**: If VERIFY=REQUIRED is specified on the VTAM APPL definitions in VTAMLST, session key definitions might also be required in the RACF commands. For additional information on session keys, see `z/OS MVS Planning: APPC/MVS Management` and `z/OS Security Server RACF Command Language Reference`.

5. If the APPCLU resource class is RACLISTed on your system, refresh it after defining APPCLU profiles by using the following command:

   ```
   SETROPTS RACLIST(APPCLU) REFRESH
   ```

   This SETROPTS command can be issued even if the APPCLU resource class is not RACLISTed.

   a. Optional: Request that VTAM refresh the profiles it keeps for APPC LUs by issuing the MVS command:

      ```
      F vtam-proc-name,PROFILES,ID=lu-name
      ```

      Where `vtam-proc-name` is the name of the started task that executes VTAM, and `lu-name` is the APPC LU name that you want VTAM to reload security profiles for.

**What to do next**

If you have multiple IMS subsystems you must create multiple profiles. For each IMS subsystem, you need only create 1 set of profiles for the APPC/IMS LU name and the APPC/MVS base LU name on the MVS LPAR where IMS runs.
If you have multiple MVS LPARs, each LPAR should have a different APPC/MVS base LU name. For example, if you have 2 LPARs, and want to be able to use HP Sysgen from LPAR 1 to access an IMS subsystem that runs on LPAR 2, you would need to create multiple profiles. In the following example, LPAR SYS1 has APPC/MVS base LU name MVSLU01 and LPAR SYS2 has APPC/MVS base LU name MVSLU02, you should create the following profiles (for an NQN=NO environment):

ADCD.MVSLU01.MVSLU02
ADCD.MVSLU02.MVSLU01
ADCD.MVSLU01.MVSLU01
ADCD.MVSLU02.MVSLU02

These profiles would allow you to access IMS systems on SYS1 from either SYS1 or SYS2, and IMS systems on SYS2 from either SYS2 or SYS1.

**Setup IMS HP Sysgen Tools options**

After you complete configuration tasks, the ISPF interface is ready for use. Before performing any other actions, you must enter at least one IMSID in the IMSID Setup, using option 0 of the IMS HP Sysgen Tools main menu.

You can also use batch utility IOHBIMS to create IMSID options, but this method requires that you specify all the required data set names, since the batch utility does not use APPC/MVS to obtain the data set names used by the IMS control region. The batch utility was designed for those customers that do not intend to use the ISPF interface. For additional information on the IOHBIMS batch utility, see Chapter 13, “Batch IMSID Options Utility,” on page 189.

When you run the %IOHXISPF command for the first time, you must enter the name of a valid IOHPDS data set on the IMS HP Sysgen Tools main menu. The data set name must be fully qualified without any quotes. ISPF uses this name on each subsequent invocation of the %IOHXISPF command.

To add a new IMSID, use option 0 from the IMS HP Sysgen Tools Primary Options menu. The IMS HP Sysgen Tools SETUP menu shown in Figure 1A, is displayed. The IOHOPT data set name is automatically populated with the DSN specified for the IOHOPT data set that you specified in the IOHXOPT EXEC.

Select option 1 to display the IMSID Setup list.

<table>
<thead>
<tr>
<th>SETUP/options</th>
<th>IMS HP Sysgen Tools - Setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option ====&gt;</td>
<td>_____________________________</td>
</tr>
<tr>
<td>1 IMSID</td>
<td>Define an IMS Subsystem</td>
</tr>
<tr>
<td>2 Group</td>
<td>Define a group of IMS Subsystems</td>
</tr>
<tr>
<td>3 Profiles</td>
<td>Define Authorization Profiles</td>
</tr>
<tr>
<td>4 Users</td>
<td>Define User Authorization</td>
</tr>
<tr>
<td>IOHOPT DSN ====&gt;</td>
<td>IMS.IOH.IOHOPT</td>
</tr>
<tr>
<td></td>
<td>(Fully qualified DSNAME without quotes)</td>
</tr>
</tbody>
</table>

*Figure 1. IMSID options setup menu*

After selecting option 1, a list is displayed of all IMSIDs which have options modules. If you have no IMSID options defined, the list is empty, as shown in Figure 2 on page 29.
To add a new IMSID, enter S xxxx, where xxxx is the IMSID which you want to add. The first of four IMSID setup panels, Figure 3, is displayed.

**Figure 2. IMSIDs options modules - Empty list**

To add a new IMSID, enter S xxxx, where xxxx is the IMSID which you want to add. The first of four IMSID setup panels, Figure 3, is displayed.

**Figure 3. Add IMSID panel 1 of 5**

where:

**IMSID**

The IMSID of the subsystem for which you want to create an options member. To proceed to the next setup panel, this IMS subsystem must be running.

**Authorized User ID**

The name of the user ID you created previously. IOHAPPC is suggested, as mentioned in “Step 9. Create an IMS HP Sysgen Tools authorized user ID” on page 24. The user ID must be present on the MVS system where the IMSID is currently running. Instead of a user ID, you can also specify this field as an asterisk (*) if all users who will request installation of a resource update list have the authorization required for HP Sysgen install process. See “Step 9. Create an IMS HP Sysgen Tools authorized user ID” on page 24 to see a list of all the authorizations required.

**HP Sysgen PSB Name**

The PSB name you created previously. IOHCMD is suggested, as mentioned in “Step 11. Add APPLCTN for IMS HP Sysgen Tools” on page 25.
AGN Name for PSB

This field is optional. If IMS security definitions were updated to require an AGN name for the PSB name, enter one to which all users have access.

APPC/MVS HP Sysgen TPName

This field is required and is automatically initialized to the default value of IOH220_IMS_HP_SYSGEN. The name you specify must be 64 characters or fewer and must match the TPName specified in "Step 6. Define APPC/MVS transaction program profile for IMS HP Sysgen Tools" on page 21.

APPC/MVS Symbolic Dest

The name of the APPC symbolic destination for the MVS system where this IMS subsystem is running. This name was created in the "Step 4. Define APPC/MVS symbolic destinations" on page 20.

Note: This is not the APPC/IMS LU or symbolic destination name.

When you have completed this panel, press the Enter key to see the second setup panel.

IMS HP Sysgen Tools retrieves data set name information for the current IMS system and includes it in Figure 4.
DRD  Shows whether IMS Dynamic Resource Definition (DRD) is enabled or disabled in this IMS system. This field is populated by IMS HP Sysgen Tools and cannot be changed.

IMS Data Set Names
   Fully qualified data set names, without quotes. MODSTAT is populated by IMS HP Sysgen Tools and cannot be changed. The RESLIB data set is also populated by IMS HP Sysgen Tools and cannot be changed. It is the library that contains the current DFSVNUCx, DFSISDCx, and DFSVC000 modules that are being used by the IMS control region.

   IOHLOG
       Requires the data set name for the IOHLOG data set as allocated in the IOHALOG member of the SIOHAMP library.

IMS MODBLKS Libraries
   MODBLKSA and MODBLKSB are populated by IMS HP Sysgen Tools and cannot be changed.

   MODBLKS
       Requires the name of the staging MODBLKS data set.

User MODBLKS
   Optional. Allows you to enter a MODBLKS data set name which is updated by the installation of Resource Update Lists. If you want to maintain a backup of the current MODBLKS, you can use this field to enter the name of the backup MODBLKS.

IMS MATRIX Libraries
   MATRIXA and MATRIXB are populated by IMS HP Sysgen Tools and cannot be changed.

   MATRIX
       Requires the name of the staging MATRIX data set.

User MATRIX
   Optional. If you want to maintain a backup of the current MATRIX libraries, you can use this field to enter the backup name of the MATRIX libraries.

When you have completed this panel, press Enter. IMS HP Sysgen Tools displays the third of five setup panels as shown in Figure 5 on page 32.

Use this panel to define IMS sysgen source information. Entering data on this panel is optional, and is used only in ISPF option 5, Validation of gen source and option 6, Fastgen. If you do not expect to use these options, this panel and panel 4 can be left blank. If you require these panels later, you can complete them at that time.

To enter your IMS sysgen source information, determine the data set names that identify where your IMS sysgen source is located. You enter information on this panel based on how the sysgen source is organized. Follow instructions on the panel.

All data set names must be fully qualified names with no quote marks.
You can specify up to 30 data set names on this panel. Figure 6 shows a basic configuration of IMS sysgen source. It shows IMS sysgen input present in five members of a gen source PDS.

This example could also have a member in IMS910.IMSGEN.CNTL called IMS9COPY, which would consist of the following statements:

COPY SYSTEM
COPY DATABASE
COPY PROGRAM
COPY TERMINAL
COPY IMSGEN

This member would use the information in Figure 7 on page 33.
When you have completed this panel, press Enter twice to display the fourth setup panel as shown in Figure 8.

Figure 8 specifies the IMS security gen source data sets.

Enter security gen source data set names as they appear in the SYSIN DD in the security gen job. You might enter up to 10 data set names.

When you have completed this panel, press Enter twice to display the final setup panel as shown in Figure 9 on page 34.

You cannot change the information on this screen. It is shown for informational purposes only.
The fifth Add IMSID panel displays any IMS RDDS data set names that are defined. If DRD is disabled, the list of RDDS data set names is blank.

When you have verified that the RDDS data set names are valid for this IMS system, you can either press PF3 to save the updated IMSID options module, or you can enter the CANCEL command on the command line to discard all changes to the IMSID options on the prior four panels.

IMS HP Sysgen Tools returns to the IMSID selection menu, which now displays the added options member as shown in Figure 10.

These options are saved in the IOHOPT data set in member IOH@xxxx where xxxx is the IMSID. The options must be present on every MVS system where the IMS HP Sysgen Tools ISPF interface can be used. You do not need to enter the setup panels on each MVS system; the options modules from one system can be copied to other MVS systems.

**Fast Sysgen control cards for IMS command interface**

Fast Sysgen control cards are used only by the IMS command interface. If you use only the ISPF interface, you do not need to create any Fast Sysgen control cards. For the IMS command interface, these control cards must be available in to the IMS control region via the PROCLIB DD statement.

Two key Fast Sysgen control cards identify the DDNAME or DSNAMEs and member name for the IMS stage 1 source and the DDNAME or DSNAMEs and
member name for the security generation source. There are also optional control
cards and parameters to control Fast Sysgen output, as well as optional control
cards for diagnostic purposes.

**Syntax for Fast Sysgen control cards**

The syntax for Fast Sysgen control cards follows the same syntax rules as
assembler statements. The control cards consist of an optional label field that starts
in column 1, followed by a blank, the operation code, another blank, and then the
operands.

Fast Sysgen control cards present in the IOHPXXXX member might now be
continued. Continuation statements must have a continuation character in column
72. Columns 1-15 of the continuation statement must be blank. Comments are
identified by an asterisk in column 1 of the control card.

**Naming the control card member**

The name of the member containing the Fast Sysgen control cards must start with
IOHP. When Fast Sysgen is used online, the suffix is the IMSID of the IMS system
being used.

The library that contains the control card member is specified in the PROCLIB DD
statement in the IMS control region JCL when Fast Sysgen is used in online mode.
The recommended data set containing the control card member is the library
referred to by the PROCLIB DD statement in the IMS control region JCL, typically
the IMS.PROCLIB data set.

**IMSGEN control card**

The IMSGEN control card consists of the operation code 'IMSGEN' and any or all
of the following keyword operands: DDNAME= or DSNAME=, MEMBER=,
PRINT=, and LINES=.

**DDNAME = IOHGEN | ddname**

This keyword parameter specifies the name of the data definition (DD)
statement pointing to the IMS stage 1 macro source library or libraries. This
keyword applies to both batch and online execution of Fast Sysgen. IOHGEN
is the default DD name used for IMS stage 1 macro source libraries.
DDNAME=NONE is not valid on the IMSGEN statement.

The DDNAME= keyword is mutually exclusive with the DSN= parameter.

**DSN =(dsname[,dsname]) | dsname**

This keyword parameter specifies data set names to be used for input to the
associated IMS sysgen process. You can specify from 1 to 50 data sets. You
must enclose multiple data set names with parentheses as shown below.

IMSGEN DSN=data.set.name
IMSGEN DSN=(data.set.name1,data.set.name2)

The DSN keyword is mutually exclusive with the DDNAME keyword. If the
source data sets is PDS format, the member keyword is still required to specify
the member name. If the source data sets is sequential, multiple sequential data
sets are read in the order specified, just as they would be if the data sets were
concatenated in JCL.
MEMBER = NONE | member-name
This keyword parameter identifies the member name containing the IMS Stage 1 macros. If the Stage 1 macros are in a sequential data set, specify MEMBER=NONE. The default member name is NONE.

PRINT = IOHPRINT | ddname | NONE
This keyword parameter specifies the name of the DD statement to which the IMSGEN input statements (IMS Stage 1 source) are to be written. If this parameter is specified as IOHPRINT, the default, IMSGEN input statements are listed with other Fast Sysgen control messages.

Also, if IOHPRINT is specified or defaulted to, error messages associated with IMSGEN input statements appear only in the IOHPRINT DD's output. If another value for PRINT= is specified, any error messages appear in the specified DDNAME's output and also appear in IOHPRINT DD's output along with the IMSGEN input macro that caused the error (similar to the SYSTERM option of the OS/390® assembler). PRINT=NONE suppresses any IMSGEN input statement output.

LINES = 60 | number-of-lines
This keyword parameter specifies the number of lines to be printed on a page. The default number of lines per page is 60. If 0 (zero) is specified, 60 lines are printed on a page, but additional page headers and titles are suppressed.

### IMSRPT control card

The IMSRPT control card consists of the operation code ‘IMSRPT’ and up to two keyword operands, PRINT= and LINES=.

PRINT = IOHPRINT | ddname | NONE
This keyword parameter specifies the name of the DD statement identifying where IMS sysgen reports are to be written. This parameter might be specified as IOHPRINT to combine IMS sysgen reports with other Fast Sysgen control messages. The default value is PRINT=IOHPRINT. PRINT=NONE suppresses all IMS sysgen report output.

LINES = 60 | number-of-lines
This keyword parameter specifies the number of lines to be printed on a page. The default number of lines per page is 60. If 0 (zero) is specified, 60 lines are printed on a page, but additional page headers and titles are suppressed.

### SECGEN control card

The SECGEN control card consists of the operation code ‘SECGEN’ and up to four keyword operands, DDNAME= or DSN=, MEMBER=, PRINT=, and LINES=.

DDNAME =NONE | ddname
This keyword parameter specifies the name of the data definition (DD) statement pointing to the IMS security generation source library or libraries. This statement applies to both batch and online execution of Fast Sysgen. If the security generation source statements are in the same PDS as the IMS HP Sysgen Tools input, the same DDNAME might be used for both the IMSGEN and SECGEN statements. If the environment being generated does not include any security, specify DDNAME=NONE. The default is DDNAME=NONE.

The DDNAME= keyword is mutually exclusive with the DSN= parameter.

DSN =(dsname[,dsname]) | data set name
This keyword parameter specifies data set names to be used for input to the
associated IMS sysgen process. You can specify from 1 to 50 data sets. You
must enclose multiple data set names with parentheses as shown below.

```
SECGEN DSN=data.set.name
SECGEN DSN=(data.set.name1,data.set.name2)
```

The DSN keyword is mutually exclusive with the DDNAME keyword. If the
source data sets is PDS format, the member keyword is still required to specify
the member name. If the source data sets is sequential, multiple sequential data
sets are read in the order specified, just as they would be if the data sets were
concatenated in JCL.

```
MEMBER = NONE | member-name
```

This keyword parameter specifies the name of the member containing the
security generation source. If the security generation source is in a sequential
data set, specify MEMBER=NONE. The default member name is NONE.

```
PRINT = IOHPRINT | ddname | NONE
```

This keyword parameter identifies the name of the DD statement that defines
where the security generation input statements are to be written. If this
parameter is specified as IOHPRINT, the default, the security input statements
will be combined with other Fast Sysgen control messages.

Also, if IOHPRINT is specified or defaulted to, error messages associated with
security generation input statements appear only in the IOHPRINT DD’s
output. If another value for PRINT= is specified, any error messages appear in
the specified DDNAME’s output and also appear in IOHPRINT DD’s output
along with the security input statement that caused the error (similar to the
SYSTERM option of the OS/390 assembler). PRINT=NONE suppresses any
IMS security generation output.

```
LINES = 60 | number-of-lines
```

This keyword parameter specifies the number of lines to be printed on a page.
The default number of lines per page is 60. If 0 (zero) is specified, 60 lines are
printed on a page, but additional page headers and titles are suppressed.

**SECRPT control card**

The SECRPT control card consists of the operation code ‘SECRPT’ and up to two
keyword operands, PRINT= and LINES=.

```
PRINT = IOHPRINT | ddname | NONE
```

This keyword parameter specifies the name of the DD statement identifying
where the security generation reports are to be written. This parameter might
be specified as IOHPRINT to combine the security reports with other Fast
Sysgen control messages. The default value is PRINT=IOHPRINT.
PRINT=NONE suppresses the security report output.

```
LINES = 60 | number-of-lines
```

This keyword parameter specifies the number of lines to be printed on a page.
The default number of lines per page is 60. If 0 (zero) is specified, 60 lines are
printed on a page, but additional page headers and titles are suppressed.

**DFSPUE0 control card**

The DFSPUE0 control card consists of the operation code DFSPUE0 and one
required keyword, NAME=. This control card is processed only during IMS control
region initialization and is ignored for batch processing of the Fast Sysgen process. This control card is optional and should be used only if other DFSPPUE0 exit routines need to be invoked.

**NAME = NONE | module names**

This keyword specifies additional IMS partner product initialization exit routine (DFSPPUE0) module names. The default is to have no other exit routines called during online initialization. If more than one module name is to be invoked, the module names can be included on multiple DFSPPUE0 statements or on a single control card with the names enclosed in parentheses.

**ALLOC control card**

This control card is optional. The ALLOC control card allows you to specify the data set names for the staging MODBLKS, staging MATRIX, and MODSTAT data sets. Using the ALLOC control card to define MODBLKS and MATRIX data set names removes the requirement to have the staging libraries added to the IMS control region JCL. If this control card is specified, the data set names override any data sets present in the JCL of the IMS control region or Fastgen batch job.

**MODBLKS=data.set.name**

Identifies the data set name of the staging MODBLKS data set

**MATRIX=data.set.name**

Identifies the data set name of the staging MODBLKS data set

**MODSTAT=data.set.name**

Identifies the data set name of the IMS MODSTAT data set.

**Sample Fast Sysgen control cards for the IMS command interface**

The SIOHSAMP library contains sample Fast Sysgen control cards in member IOHPM000. This member would typically be placed in the IMS PROCLIB as member IOHPxxxx, where xxxx is the IMSID of the IMS system being updated. IOHPM000 is shown in [Figure 11 on page 39](#).

**Note:** The following Assembler source code syntax requirements must be met:

- One or more blanks must precede the control card type.
- One or more blanks must follow the control card type.
- Continuation characters must appear in column 72 of a continued line.
- Continuation characters must appear in column 16 of a continued line.
IMS command interface configuration

**About this task**

This section describes the configuration steps that are required to activate the IMS command interface of IMS HP Sysgen Tools. If you do not intend to use the IMS command interface, skip this section and proceed to the "Configuring the ISPF interface" on page 16.

**Note:** Attention

IMS HP Sysgen Tools, Version 1 introduced a feature called the IMS command interface. This allowed users to update their IMS sysgen and/or security gensource, issue an IMS online change command with a special FASTGEN keyword, and have the gen source converted into MODBLKS and MATRIX modules before invoking the IMS online change function.

Version 2.2 of IMS HP Sysgen Tools is the last release to support this interface. New users of IMS HP Sysgen Tools are encouraged to not install this feature.

Existing customers using this interface are encouraged to either convert to the batch Fast Sysgen process, or use the synchronization process to compare IMS sysgen source with a running IMS system’s control blocks, and create a Resource Update List that updates the IMS control blocks to reflect the updated IMS sysgen source.
Prerequisite: You should have already reviewed “Setting up the environment” on page 15 and completed those steps.

Configuration for the IMS command interface includes the following steps:

1. Review DFSPPUE0 IMS exit routine requirements. Refer to “DFSPPUE0 exit routines,” for more information.
2. Create Fast Sysgen control cards for each IMS subsystem. Refer to “Fast Sysgen control cards,” for more information.
3. Make required changes to the IMS control region JCL. Refer to “IMS control region JCL changes,” for more information.
4. Review security requirements that might be affected by IMS HP Sysgen Tools. Refer to “Security requirements” on page 41, for more information.

DFSPPUE0 exit routines

If other products are using the IMS partner product initialization exit, DFSPPUE0, ensure that they are identified because Fast Sysgen requires use of this exit routine. If other DFSPPUE0 exit routines are present in the installation, you can rename and invoke them by using the DFSPPUE0 control card as described in Figure 11 on page 39.

Other users of this exit are the IBM IMS Network Compression Facility and several other vendor products. IMS invokes only the first DFSPPUE0 module it finds in the IMS STEPLIB. It is important, therefore, to identify any other users of this exit routine and determine the best way to have all DFSPPUE0 exit routines invoked during the IMS initialization. Fast Sysgen sends message IOH401I to the MVS system console and syslog when its DSPPUE0 exit routine is successfully invoked.

Fast Sysgen also supports invocation by other products. For example, IMS Network Compression Facility has a feature that is similar to the DFSPPUE0 control card. If IMS Network Facility’s load library is placed ahead of the SIOHLINK data set, ensure that IMS Network Compression Facility invokes module IOHPPUE0. No modules in the SIOHLINK library would need to be deleted or renamed.

Fast Sysgen control cards

You must create Fast Sysgen control cards for each IMS subsystem where the IMS command interface will be installed. The IMS command interface requires that the control cards be installed in the IMS control region PROCLIB DD, in member IOHPlmid (where mid is the IMSID of that IMS subsystem). Refer to “Fast Sysgen control cards for IMS command interface” on page 34 for details about the statements that are required and how to determine which parameters are required.

IMS control region JCL changes

The source for IMS sysgen and security gen statements can be specified in two ways. If the IMMSGEN and SECGEN statements include the DDNAME= parameter, then the IMS control region must be updated with these DD statements and the appropriate data set names. However, if you use the DSN= keyword on these statements, no JCL change is required for the gen source data sets.

Fast Sysgen requires access to the MATRIX and MODBLKS data sets which are not normally included in the IMS control region JCL. These data sets have no A or B
suffix, and are also called the staging data sets. These data sets must be added to the IMS control region JCL with DD names MATRIX and MODBLKS, or the ALLOC control card must be included to specify the data set names of these two libraries. If the MODSTAT data set is also specified on the ALLOC control card, ensure that the correct data set name is specified.

**Attention:** Failure to specify the proper data set name might cause unexpected results, including gen changes that are not implemented or U0168 IMS control region abends during IMS restart.

Data sets referenced in the IMS control region JCL for the MATRIXA/MATRIXB and MODBLKSA/MODBLKSB DD statements must allocate the A and B version of those libraries. Fast Sysgen does not support having both the A and B DD names point to the same data set (such as the staging data set).

Ensure that you add the SIOHLINK data set to the IMS control region STEPLIB concatenation, and ensure that the placement of the data set is consistent with DFSPPUE0 control cards and the location of other DFSPPUE0 exit routines.

**Note:** Use caution when copying the SIOHLINK data set to a common program product load library. Module name DFSPPUE0 could be in use by more than one product.

Note that the data sets referenced in the IMS control region STEPLIB and the MATRIXA/MATRIXB and MODBLKSA/MODBLKSB DD statements must be APF authorized. This includes the SIOHLINK data set if it is placed in the IMS control region STEPLIB. The staging MATRIX and MODBLKS DD libraries do not require APF authorization.

**Security requirements**

Security changes might be required to allow the online execution of Fast Sysgen. The Fast Sysgen process, when executing online, updates the inactive and staging copies of the MODBLKS and MATRIX data sets. Thus, the user ID (or group) associated with the IMS control region must have UPDATE access to all three MATRIX and MODBLKS libraries (staging A and B libraries).

In addition, the IMS control region must have READ access to all IMS stage 1 source and security generation source libraries.

**Fast Sysgen performance suggestions**

Sorting resource names uses the largest amount of computer resources in the traditional IMS sysgen process. Fast Sysgen takes advantage of better sorting techniques to improve IMS sysgen performance.

Presorting IMS resources does not improve Fast Sysgen performance. Although CPU resource consumption can be improved in the standard IMS process by sorting in descending order, this is usually not necessary using Fast Sysgen because the sort techniques it uses are faster than the traditional IMS sysgen.

The steps you can take to improve Fast Sysgen performance are related to I/O processing. You should:

- Consider blocking the MODBLKS and MATRIX data sets at either one-half track blocking or the maximum block size (32760).
• Ensure that all MODBLKS and MATRIX data sets use the same block size (including the staging library as well as the A and B libraries).
• Increase the block size of the sysgen source libraries to either one-half track blocking or the largest reasonable block size.
• Reduce the number of lines of source code in the IMS sysgen source. This can be accomplished by merging short lines of macros; for example, not using a line for each keyword.

The greatest sysgen performance improvement, for Fast Sysgen or traditional IMS sysgen, is achieved by eliminating unused resource definitions from the IMS sysgen source.

---

**IMS Sysgen source organization**

This section discusses suggestions for improving Fast Sysgen performance, managing sysgen source and using SCLM to validate sysgen updates.

**Topics:**
- “Sysgen source organization”

**Fast Sysgen performance suggestions**

Sorting resource names uses the largest amount of computer resources in the traditional IMS sysgen process. Fast Sysgen takes advantage of better sorting techniques to improve IMS sysgen performance.

Presorting IMS resources does not improve Fast Sysgen performance. Although CPU resource consumption can be improved in the standard IMS process by sorting in descending order, this is usually not necessary using Fast Sysgen because the sort techniques it uses are faster than the traditional IMS sysgen.

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• Ensure that all MODBLKS and MATRIX data sets use the same block size (including the staging library as well as the A and B libraries).
• Increase the block size of the sysgen source libraries to either one-half track blocking or the largest reasonable block size.
• Reduce the number of lines of source code in the IMS sysgen source. This can be accomplished by merging short lines of macros; for example, not using a line for each keyword.

The greatest sysgen performance improvement, for Fast Sysgen or traditional IMS sysgen, is achieved by eliminating unused resource definitions from the IMS sysgen source.

**Sysgen source organization**

Managing IMS sysgen source requires careful attention. For efficient use of IMS HP Sysgen Tools, you should ensure that a source management process has been implemented for IMS sysgen and security gen source. You can organize sysgen source in a number of ways that are supported by Fast Sysgen.
You can maintain sysgen source in members of a PDS or in one or more sequential data sets. The Fast Sysgen process supports as many as 50 different partitioned or sequential data sets containing sysgen source.

It is important to maintain application independence in case, for example, changes to sysgen source are managed by application programmers or DBAs, while IMS syssgens are performed by IMS system support staff. To ensure independence is maintained, each application can maintain a separate sysgen source data set. This data set could include multiple members in a single PDS. Your installation's security software can be used to ensure that individuals responsible for different applications are allowed to update only one source data set and read the sysgen source of other applications.

**Example: Managing sysgen source for application independence**

In this example, assume that there are three applications in an IMS subsystem: payroll, accounts payable and accounts receivable. In addition, IMS system support maintains the system macros, such as IMSCTRL and IMSCTF, terminal definitions and perhaps application definitions, such as APPLCTN, TRANSACT and DATABASE macros.

You could implement this configuration as shown in the following series of tables:

The following PDSs could be created:

<table>
<thead>
<tr>
<th>Application PDS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS.SYSGEN.SOURCE</td>
<td>Contains system support definitions</td>
</tr>
<tr>
<td>PAYROLL.SYSGEN.SOURCE</td>
<td>Contains payroll application definitions</td>
</tr>
<tr>
<td>ACCTPAY.SYSGEN.SOURCE</td>
<td>Contains accounts payable application definitions</td>
</tr>
<tr>
<td>ACCTRECV.SYSGEN.SOURCE</td>
<td>Contains accounts receivable application definitions</td>
</tr>
</tbody>
</table>

The IMS sysgen source data set could contain members such as *imid*/COPY, where *imid* is the IMSID of the IMS subsystem. This member would contain Assembler COPY statements for all members used in the sysgen for this IMS subsystem.

**Table 2. Source data set members**

<table>
<thead>
<tr>
<th>IMS sysgen source data set members</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPPORT</td>
<td>Contains IMS support macros, APPLCTN, TRANSACT and DATABASE</td>
</tr>
<tr>
<td>MASTER</td>
<td>Contains IMS master terminal definitions</td>
</tr>
<tr>
<td>TERMINAL</td>
<td>Contains terminal definitions</td>
</tr>
<tr>
<td><em>imid</em>SYS</td>
<td>Contains IMS system macros, such as IMSCTRL and IMSCTF. It cannot contain the IMSGEN macro which must be last in the gen source</td>
</tr>
<tr>
<td><em>imid</em>GEN</td>
<td>Contains IMGSGEN macro</td>
</tr>
</tbody>
</table>

The PAYROLL sysgen source data set could contain members such as the following:
Table 3. PAYROLL sysgen source data set members

<table>
<thead>
<tr>
<th>PAYROLL sysgen source data set members</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAYAPPL</td>
<td>Contains the APPLCTN and TRANSACT macros required for the payroll application.</td>
</tr>
<tr>
<td>PAYDBD</td>
<td>Contains the DATABASE macros required for the payroll application.</td>
</tr>
</tbody>
</table>

The ACCTPAY sysgen source data set could contain a member such as the following:

Table 4. ACCTPAY sysgen source data set member

<table>
<thead>
<tr>
<th>ACCTPAY sysgen source data set member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTPAY</td>
<td>Contains all the accounts payable application definitions (APPLCTN, TRANSACT and DATABASE).</td>
</tr>
</tbody>
</table>

The ACCTRECV sysgen source data set could contain a member such as the following:

Table 5. ACCTRECV sysgen source data set member

<table>
<thead>
<tr>
<th>ACCTRECV sysgen source data set member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTRECV</td>
<td>Contains all the accounts receivable definitions (APPLCTN, TRANSACT and DATABASE).</td>
</tr>
</tbody>
</table>

Given this environment, the sysgen source would be connected using the imidCOPY member in the IMS sysgen source data set. If the IMS subsystem name was DEV5, member DEV5COPY would contain the following:

Table 6. DEV5COPY sysgen source data set member

<table>
<thead>
<tr>
<th>Copy statement</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPY DEV5SYS</td>
<td>SYSTEM MACROS</td>
</tr>
<tr>
<td>COPY SUPPORT</td>
<td>SYSTEM TRANSACTIONS</td>
</tr>
<tr>
<td>COPY PAYAPPL</td>
<td>PAYROLL</td>
</tr>
<tr>
<td>COPY PAYDBD</td>
<td>PAYROLL</td>
</tr>
<tr>
<td>COPY ACCTPAY</td>
<td>ACCOUNTS PAYABLE</td>
</tr>
<tr>
<td>COPY ACCTRECV</td>
<td>ACCOUNTS RECEIVABLE</td>
</tr>
<tr>
<td>COPY MASTER</td>
<td>MASTER TERMINAL / BTAM</td>
</tr>
<tr>
<td>COPY TERMINAL</td>
<td>MSC/ISC/TERMINALS</td>
</tr>
<tr>
<td>COPY DEV5GEN</td>
<td>IMSGEN MACRO</td>
</tr>
</tbody>
</table>

Advantages of this sysgen source environment:

This sysgen source environment functions for both the traditional IMS sysgen process and the Fast Sysgen process. For a traditional IMS sysgen, the following DD statements would be included in the stage 1 sysgen process.
To use the configuration with IMS HP Sysgen Tools Fastgen or ISPF panels, you would code the IMSID setup panel containing IMS sysgen source information (panel 3) as:

```
SETUP IMS HP Sysgen Tools - EDIT IMSID (Page 3 of 5) Row 1 to 21 of 30
Command ===> Scroll ===> CSR
IMSID ===> IMS9
Member ===> DEVCOPY

Line CMDs: Specify SYSIN data set names for the IMS Stage I Sysgen process.
I Insert When finished press enter with no updates to the screen.
D Delete
R Replicate

CMD Data Set Name (Fully qualified DSN without quotes)
- IMS.SYSGEN.SOURCE
- PAYROLL.SYSGEN.SOURCE
- ACCTPAY.SYSGEN.SOURCE
- ACCTRCEV.SYSGEN.SOURCE
```

Figure 12. IMSID setup panel for Fastgen or ISPF panels that contain sysgen source information

This sysgen source environment has the following advantages:
- Application independence can be maintained.
- You can use your existing security system to ensure that only appropriate personnel can update the sysgen source for each application.
- You can easily add or remove applications by making a few changes to JCL and/or control cards.

**Using software configuration and library manager to validate sysgen updates**

You can use Software Configuration and Library Manager (SCLM) to validate and promote IMS sysgen source changes. Doing so provides benefits of sysgen source validation before allowing sysgen changes to be used in an online or batch sysgen process. These benefits include testing source updates through the Fast Sysgen process before allowing changes.

SCLM provides a structure for updating, promoting and implementing application code changes. As part of the code promotion process, SCLM compiles and links application programs. Similarly, you can configure SCLM to invoke Fast Sysgen to verify that IMS sysgen source is valid before allowing any changes to be promoted to the production version of sysgen source.
Chapter 3. Optional product customization

This section describes how to perform optional configuration tasks.

Topics:
- “Configuring groups of IMS systems”
- “Resource Update List defaults and attribute authorization” on page 49
- “Enabling the use of IMS ACB member level global online change” on page 53

Configuring groups of IMS systems

IMS HP Sysgen Tools allows you to verify and install Resource Update Lists for either a single IMS system, or for multiple IMS systems concurrently. In order to use group functionality, you must define an IMS HP Sysgen Tools group. The group simply defines a group name, which can be any eight character name that does not start with IOH and a list of IMS systems that are part of the group.

Anyone can use the IMS HP Sysgen Tools Setup option to create or update a group definition. Your security system can be used to prevent users from making changes to group definitions by only allowing authorized users to update the IOHOPT data set.

Adding, deleting, and updating group definitions

About this task

A group is defined using the IMS HP Sysgen Tools ISPF Setup option. Selecting option 0 from the IMS HP Sysgen Tools main menu displays the setup menu, as shown in Figure 13.

![Figure 13. Setup menu](image)

On the main Setup menu, you must supply the fully qualified data set name of the IOHOPT data set where IMSID definitions are stored. Then, select option 2 to list the groups defined in the specified IOHOPT data set. After selecting option 2, a list of groups currently defined will be displayed as shown in Figure 14 on page 48.
On the setup groups panel, you can update or delete an existing group by selecting its line with a D for Delete or an S to select the group for editing. To add a new group, you must use the S command on the command line along with the name of the group you wish to define. For example, to define a new group called MARKIMS, you would enter

```
S MARKIMS
```
on the command line.

When deleting a group, a confirmation panel will ask you to verify the group to be deleted. Press Enter to delete the group, or press the End key (usually PF3) to cancel the delete request.

When selecting a group to add or update, you will see a panel showing a list of all the IMS systems defined in the IOHOPT data set. IMS systems to be included as part of the group are marked with a slash (/). Figure 15 on page 49 shows the definition of group IMS789, which includes 3 IMS systems: IMS7, IMS8, and IMS9.
To change a group definition, simply remove the slash (/) before any IMS you want to remove from the group, or add a slash in front of any IMS system to be added to the group. If you want to add an IMS system that is not listed on the panel, you must define that IMSID in the IOHOPT data set using option 1 of the Setup menu. When you press the End key (typically PF3), the changes you entered are saved in the group definition in the IOHOPT data set.

Resource Update List defaults and attribute authorization

IMS HP Sysgen Tools provides the ability for you to customize resource attribute defaults that appear when adding a new resource, and also provides the ability to limit a specific user’s ability to override the default value of a resource attribute.

Following are examples of how you might specify defaults:

- If your installation does not allow conversational transactions, you can prohibit users from entering a value in the SPA size field, and specify that the default SPA size is blank.
- If all transactions should be defined as MODE=SNGL, instead of using the IMS default of MODE=MULT, you can specify a default value of SNGL and prohibit specific users from updating the new SNGL default value.
- You can update the IMS default value for given users, but allow them to override the default value.

IMS HP Sysgen Tools uses profile and user definitions to define these abilities. A profile defines updated default values for each attribute value, and whether updates to each attribute value are permitted. A user definition associates a specific user ID with a profile name. A profile must be defined before any user definitions can be entered.

In order to view or update profile and user definitions, you must have read access to security profile IOH.SETUP. See sample job IOHRACF for the definition of this resource and how to provide appropriate users with access to this security profile.
Working with profiles

About this task

To work with IMS HP Sysgen Tools profile definitions, select option 3 from the Setup menu. A list of profiles defined in the IOHOPT data set is displayed. A sample list of profiles is shown in Figure 16.

From the List of Profiles panel, you can delete or edit an existing profile by selecting it with a D or S line command. To add a new profile, use the command line to enter `S name` where `name` is the name of the profile you wish to define.

If you attempt to delete a profile, you will be presented with a panel requesting that you confirm the attempt to delete the profile. Note that if any user definitions are associated with the profile being deleted, the delete request will fail.

When editing a profile, you are presented with a panel showing all attributes for database, program, transaction, and route code definitions. With each attribute, you can specify an updated default value used in the profile and whether the profile allows users to change the value of the attribute. A sample profile screen is shown in Figure 17 on page 51.
When you add a new profile, IMS HP Sysgen Tools populates the profile with the IMS default values for each of the attribute fields. You can accept the IMS default values or update selected values with new defaults. Following is an explanation of other actions you can perform on this panel.

**Description**

This field appears near the top of the panel. You can provide comments to be displayed next to each profile parameter.

**Default Value**

The default value for each resource attribute is shown in this column. The value can be updated to any valid value, which will then be used when a new resource is added. If the **Allow Updates** flag is set to N for an attribute, the value in the Default Value column will be enforced for any added or updated resource.

**Allow Updates**

The Allow Updates column defines whether a user is permitted to change the default value of each attribute. When specified as Y, the user is
permitted to change the value associated with the attribute. When specified as N, the user cannot update the value of the attribute.

Note that if a user is prohibited from updating an attribute value, any Resource Update Lists created by this user will force the new specified default value to be used. This applies even to updating an existing resource. For example, suppose that a profile is defined which has a default SPA SIZE of blank and users associated with the profile are not permitted to update the value. If the user creates a Resource Update List to update an existing transaction that has SPA SIZE 16, IMS HP Sysgen Tools will force the value of blank to be included in the Resource Update List. Thus, while the user may have intended to only change the MODE from MULT to SNGL, he or she will also be forced to change the SPA SIZE because the profile forces the SPA SIZE to blank.

**Working with user definitions**

**About this task**

In order to make a profile effective for a given user ID, a user entry must be created. User entries define which profile name will be used for that user name.

You can define users by selecting option 4 of the Setup menu. You must be authorized by your security subsystem to have READ access to profile IOH SETUP in order to view or update user definitions.

Figure 18 shows a sample list of users presented when selecting option 4 of the Setup menu.

![Figure 18. List of user definitions](image)

User names correspond with TSO user IDs. Generic user entries are permitted so that the number of user entries can be reduced. You can use the pound sign character (#) as a wild card character for exactly one character of a TSO user ID. In the example above, user entry DALE will match only a TSO user ID named DALE. The user entry named DBA#### will match any TSO user ID that begins with DBA. The last entry in the example, an entry with all wild card characters, will match any TSO user ID.

The order of user entries in the list is critical because the list is searched from top to bottom for a match for a TSO user ID. For a user ID named DBADALE, entry DBADALE will be found before DBA####. Therefore, TSO user ID DBADALE will use profile DALE instead of profile DBA1 because user entry DBADALE is above user entry DBA#### in the list.
You can change the order of user entries in the list by using the line commands M (move) and B (before) or A (after). Use these commands to move a user entry from one place in the list to a new location.

If you choose to delete a user entry, you will be prompted with a confirmation panel to verify that you want to delete the user entry.

To add a new user entry, you can use the I line command to insert a new user entry, or the S username primary command to create a new user entry named *username*. To update an existing user entry, select the entry with a S line command. When editing or creating a user entry, IMS HP Sysgen Tools displays the User Profile panel, as shown in Figure 19.

When editing a user entry, you can update the profile field to specify the name of an existing profile, as defined in IMS HP Sysgen Tools Setup option 3. IMS HP Sysgen Tools will validate the profile name you enter and will only allow valid names.

### Enabling the use of IMS ACB member level global online change

You can use the IMS ACB member level global online change method to reload an updated IMS ACBLIB member (including a database definition (DBD) for a Data Entry Database (DEDB)), and automatically reload any PSB that is affected by a change to a DBD. Enabling the use of IMS ACB member level global online change requires changing the IMS environment.

To use IMS ACB member level global online change, HP Sysgen must be authorized to use the IMS ACB member level global online change commands, such as the `INITIATE OLC PHASE(PREPARE) TYPE(ACBMBR)` type-2 IMS command.

To enable IMS HP Sysgen Tools to use global online change for member level ACB reloads, the following IMS features must be available.

- The IMS SCI address space must be available on the system where IMS runs.
- An IMS OM address space must be available in the sysplex to process IMS commands for any target IMS systems.
- IMS Security must allow the HP Sysgen authorized user ID to issue the `INITIATE` type-2 IMS command.
- IMS global online change must be enabled. Enablement includes replacing the MODSTAT data set with the OLCSTAT data set. You can create a global online change environment with only one defined IMS system, even though the environment is normally designed to define all the IMS systems in an IMSplex.
- An IMS staging ACBLIB must be created (or designated).
- The staging ACBLIB data set must either be added to the IMS control region JCL, or an IMS dynamic allocation member must be defined to allow IMS to dynamically allocate the staging ACBLIB when it is needed.
- Changes to IMS PROCLIB members are required to enable global online change.
For more information about enabling IMS global online change, see the *IMS System Administration Guide*. 
Part 3. IMS HP System Generation Tools Resource Update List

IMS HP System Generation Tools Resource Update List provides the capability to create a group of IMS sysgen changes to be implemented simultaneously.
Chapter 4. IMS HP Sysgen Tools Resource Updates List

The IMS HP Sysgen Tools Resource Update List provides the capability to create a group of IMS sysgen changes to be implemented simultaneously.

A resource update list is a group of IMS changes and commands that are implemented simultaneously and that provide incremental sysgen changes.

A resource update list is created by one user and then, later, installed by a different user. Each resource update list entry defines an action to be taken when the resource update list is installed. The types of actions that can be performed by the resource update lists include:
- Adding, deleting, updating, or renaming an IMS resource (database, program, transaction, or route code) definition
- Reloading an IMS ACBLIB member
- Reloading a Data Entry Database (DEDB) randomizer module
- Issuing an IMS command
- Updating an IMS terminal security for an LTERM
- Updating an IMS Application Group Name (AGN) definition

Managing a Resource Update List by using the ISPF interface

To create a Resource Update List, you can use the IMS HP Sysgen Tools ISPF interface.

The Edit function allows you to define up to 32,000 individual Resource Update List entries. Each entry defines an action to be taken when the Resource Update List is installed. You can perform several types of updates, including the following:
- Add, delete, or rename an IMS resource (database, program, transaction, or route code) definition
- Reload an IMS ACBLIB member
- Reload a Data Entry Database (DEDB) randomizer module
- Issue an IMS command
- Update IMS terminal security for an LTERM
- Update an IMS Application Group Name (AGN) definition
- Update IMS Transaction Command security

You can use the editor to view and update existing definitions. After all related IMS resource changes are defined, the entries are saved as a single Resource Update List.

You can verify that the changes that are defined in a Resource Update List are compatible with a specified IMS system or group of IMS systems. When you use the Verify option, checks are performed to ensure that the entries in a Resource Update List are compatible with the target IMS subsystem(s); for example, to ensure that remote and local MSC SYSIDs are valid. In fact, a single Resource Update List can be verified and installed in multiple IMS subsystems without any changes to the Resource Update List. Verification of an update list is optional. The installation process performs an internal verification prior to making any changes.
Installation of a Resource Update List is initiated through the ISPF Install option. However, the actual installation runs in an APPC/MVS initiator on the MVS system where each IMS subsystem is running. The IMS subsystem must be active for a Resource Update List to be installed.

The installation process follows these procedures:
1. IMS HP Sysgen Tools verifies that all entries in the Resource Update List can be installed on the target IMS subsystem.
2. After verification has completed, any IMS commands (with sequence "before") are issued.
3. Existing MODBLKS/MATRIX definitions are read from the active data sets, updated to reflect entries in the Resource Update List, and written to the inactive MODBLKS/MATRIX data sets.
4. After inactive libraries are updated, IMS resource definitions in memory are dynamically updated by HP Sysgen Tools.
5. IMS HP Sysgen Tools coordinates an IMS online change to bring the updated MODBLKS data set into sync with the already updated IMS control blocks, to add or delete any IMS resource definitions and to install any IMS security updates requested in Resource Update List entries.
6. After the online change completes, any IMS ACBLIB reload entries are processed.
7. Any IMS command (with sequence "after") are issued.

While it uses online change to make the changes permanent, this resource list installation process implements almost all resource updates dynamically before the online change occurs. This process makes the online change much less likely to encounter problems that might cause the online change process to fail. This “online change assist” is used only when installing a Resource Update List.

**ISPF interface for IMS HP Sysgen Tools**

The ISPF user interface allows you to use certain IMS HP Sysgen Tools features.

**Topics:**
- "ISPF menu options"
- "Using the ISPF View option to view resources” on page 60
- "Validating IMS stage 1 sysgen source” on page 71
- "Performing a Fastgen MODBLKS gen” on page 71
- "Reversing an IMS sysgen or security gen” on page 72
- "Reviewing the HP Sysgen history log” on page 77
- "Issuing IMS commands” on page 87
- "Dynamic Resource Definition (DRD) Status” on page 88
- "Storage functions” on page 89
- "Generating JCL for batch utilities” on page 95

**ISPF menu options**

The ISPF interface provides IMS HP Sysgen Tools functionality.

Here is the IMS HP Sysgen Tools Primary Options menu which is presented through the ISPF interface.
Note that the IOHPDS data set name must be entered on the IMS HP Sysgen Tools Primary Options menu before you can use option 2, 3, or 4.

**View**  The View option allows you to see IMS resource definition attributes. You can display either the attributes from the last IMS sysgen (or Resource Update List installation) by viewing the MODBLKS data set, or you can view the resources and associated attributes from a running IMS control region.

**Validate**  The Validate option allows you to validate sysgen source. This option reads the IMS sysgen and security gen source code and provides a list of any errors or warnings. For more information, see "Validating IMS stage 1 sysgen source" on page 71.

**Fastgen**  The Fastgen option allows you to perform an IMS HP Sysgen Tools fastgen and updates MODBLKS and MATRIX data sets with these definitions. This option reads the IMS sysgen and security gen source code and provides a list of any errors or warnings. For more information, see "Performing a Fastgen MODBLKS gen" on page 71.

**Reverse**  The Reverse option allows you to reverse IMS sysgen and security gens. Reverse reads the MODBLKS or MATRIX data sets and creates source code that reflects the definitions present in these data sets. For more information, see "Reversing an IMS sysgen or security gen" on page 72.

**History**  The History option provides the capability to review changes which have been implemented using IMS HP Sysgen Tools. You can view information about changes, reverse updated definitions into IMS sysgen source, or undo installed updates. For more information, see "Reviewing the HP Sysgen history log" on page 77.

**Command**  The Command option allows you to issue IMS commands and view the response. For more information, see "Issuing IMS commands" on page 87.
The DRD option allows you to display the DRD status for an IMS control region. If DRD is enabled, the data set names of all system RDDS data sets are shown.

Storage
The Storage option provides the capability to display IMS control region storage and control blocks. For more information, see “Storage functions” on page 89.

Utilities
The Utilities option generates JCL to run IMS HP Sysgen Tools batch utilities. For more information, see “Generating JCL for batch utilities” on page 95.

Using the ISPF View option to view resources
You can view existing IMS resource definitions by using IMS HP Sysgen Tools ISPF option 1, the View option. Such definitions include database, program, transaction, and route codes. You can review the resources as they were defined in the last IMS sysgen (and any changes installed via Resource Update Lists), or you can review the definitions that are currently being used by the online IMS system. If you have Fast Path DEDBs defined in your IMS system, you can also view the DEDB randomizer names that are in use by an IMS system which is currently running.

Note: The online system might include changes in resource definitions that were requested by using IMS commands (such as /ASSIGN or /CHANGE).

Topics:
- “Using the View Menu”
- “Accessing the Loading panel” on page 63
- “Using the ISPF line commands” on page 63
- “Viewing resource and attribute values” on page 64
- “Viewing a DEDB randomizer list” on page 70

Using the View Menu:
Use the View panel of the ISPF interface to display resources.

Using the initial View panel
When you select the View option, the View Menu is displayed.
The IMSID field is required. It specifies which IMS system’s resources will be displayed. The Option field allows you to select which definitions are to be shown. You can select the following options:

**INCORE**
This option shows the resource definitions in IMS control blocks that are being used when you press Enter. IMS must be running to use this option. The resource status will include changes that were made by using IMS commands such as /ASSIGN that might not be in the MODBLKS/RDDS data sets.

**DASD**
This option shows the resource definitions that are stored in the current MODBLKS or RDDS data sets, depending on whether DRD is disabled or enabled. The values that are shown are used by IMS if IMS is cold started. Changes that are installed through resource update lists are included in the resources that are displayed when you use this option.

**MODBLKS**
This option allows you to specify IMS system data sets (MODBLKS and RESLIB). You can also specify the nucleus suffix that is in those data sets that will be used to retrieve resource definitions. The data sets do not have to be related to any IMS system, and they can be in use or not. For more information, see "Using the MODBLKS option" on page 62.

**RDDS**
This option shows the names of the system RDDS data sets that are used by the selected IMS system. The timestamp and the statuses that are associated with each RDDS data set are shown. If you select any of the RDDS data sets, the resource definitions that are present in the selected RDDS are shown. You can also enter the data set name of any valid RDDS data set if you want to supply your own data set name.

You can select the type of resource that you want to see (database, program, transaction, route code, or DEDB randomizer) by entering the appropriate option in the Resource field.

**Note:** To view DEDB randomizer names, you must specify the INCORE option, and IMS must be active. For more information, see "Using the RDDS option" on page 62.
Using the MODBLKS option

If you select the MODBLKS option, IMS HP Sysgen Tools prompts you to enter data set names and the IMS nucleus suffix that are used to retrieve resource definitions. The following figure shows the fields for entering the specifications for the MODBLKS option.

![View IMS HP Sysgen Tools - View User Specified MODBLKS Data Set](image)

Figure 22. View MODBLKS specification panel.

All three fields on the panel are required. The IMS suffix is the SUFFIX= value that is specified on the IMMSGN macro during the IMS sysgen process. The IMS release that is present in the RESLIB must match the IMS release that is used to create the IMS resource definitions in the MODBLKS data set.

Specify or select an RDDS data set and press Enter to display the requested resource definitions.

Using the RDDS option

If you select the RDDS option, IMS HP Sysgen Tools shows the system RDDS data sets that are used for the selected IMS system. An example is shown in the following figure.

![View IMS HP Sysgen Tools - View User Specified RDDS Data Row 1 to 3 of 3](image)

Figure 23. View RDDS specification panel

On the View RDDS specification panel, you can specify an RDDS data set name of your choosing, or you can select one of the system RDDS data sets that are shown in the table. Select the RDDS data set by using the $ line command next to the one that you want to use.

Specify or select an RDDS data set and press Enter to display the requested resource definitions.
Accessing the Loading panel:

About this task

If you select the DASD or MODBLKS options, a status panel, as shown in the following figure, is displayed while the resource definitions are loaded from the MODBLKS data set. After the definitions are loaded, press Enter to continue to the display panel. If you selected the INCORE option, the status panel is bypassed, and the resource definitions are displayed as soon as they are prepared.

<table>
<thead>
<tr>
<th>LOADING</th>
<th>IMS HP Sysgen Tools - Loading IMS Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command==&gt;</td>
<td>____________________________________________</td>
</tr>
</tbody>
</table>

IMS Definitions loaded in 0.30

<table>
<thead>
<tr>
<th>Defined</th>
<th>Loaded</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS Databases...: 2023</td>
<td>2023</td>
</tr>
<tr>
<td>IMS Programs ....: 62</td>
<td>62</td>
</tr>
<tr>
<td>IMS Transactions ....: 39</td>
<td>39</td>
</tr>
<tr>
<td>IMS Route Codes ....: 0</td>
<td>0</td>
</tr>
</tbody>
</table>

Press Enter to continue...

Figure 24. Resource definitions loaded from MODBLKS data set

Using the ISPF line commands:

The View panels of this product use the following ISPF line commands:

- P
- S
- T

Depending on the resource type being displayed, the line commands cause specific panels to display. A summary is provided below.

P

- If you are viewing a transaction list, a panel is displayed showing the IMS sysgen macro that created definition of the program associated with the selected transaction, as well as any other transactions and route codes associated with that program. Figure 34 on page 69 is an example of such a panel.
- If you are viewing a route code list, a panel is displayed showing the IMS sysgen definition of the program associated with the selected route code, as well as any other transactions and route codes associated with that program. Figure 37 on page 70 is an example of such a panel.

S

- If you are viewing a database list, a panel is displayed showing the IMS sysgen macro that created the definition, as well as descriptions of the columns displayed in the database list panel. Figure 26 on page 65 is an example of such a panel.
- If you are viewing a program list, a panel is displayed showing the IMS sysgen macro that created the definition, as well as descriptions of the columns displayed in the program list panel. See Figure 27 on page 66 and Figure 28 on page 66 for examples of a program list and subsequent definition panel.
• If you are viewing a transaction list, a panel is displayed showing the IMS sysgen macro that created the transaction definition. See Figure 30 on page 67, Figure 31 on page 68, Figure 32 on page 68, and Figure 33 on page 69 for examples of a multipart transaction list and subsequent definition panel.

• If you are viewing a route code, a panel is displayed showing the IMS sysgen macro that created the resource definition, as well as descriptions of the columns displayed in the route code list panel. Figure 36 on page 70 is an example of such a panel.

If you are viewing a program list, and you select a program using the T line command, a panel is displayed showing the IMS sysgen macro that created the definition for the program and all associated transaction codes and route codes. Figure 29 on page 66 shows an example of such a panel.

**Viewing resource and attribute values:**

After the resource definitions are prepared for display, an ISPF table displays resources and attribute values. You can scroll lists using the UP and DOWN ISPF commands. The LOCATE command allows you to skip to a specific value in the table. The table can also be sorted on any displayed column.

For example, consider the following scenario:

When displaying database definitions, the SORT ACCESS command could be used to sort the table by the value of the **ACCESS**= keyword specified on the DATABASE sysgen macro. The LOCATE command could then be used to skip to a particular ACCESS value; for example, the L RO command would skip to the first database defined with the ACCESS attributed defined as RO. Command L R would locate any database ACCESS value that begins with R, which would probably be an ACCESS of RD.

*Viewing a database list and attribute value:*

Figure 25 on page 65 shows an example of a database list.
Figure 25. Database list created from IMS sysgen macros

Figure 26 shows the macro that was used to create the database definition.

Figure 26. Macro used to create a database definition

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>DBFSAMD3</td>
<td>DBD name</td>
</tr>
<tr>
<td>RESIDENT</td>
<td>UP</td>
<td>IMD is retained in storage</td>
</tr>
<tr>
<td>Access</td>
<td>UP</td>
<td>Subsystem access intent</td>
</tr>
</tbody>
</table>
**Figure 27. Programs created from IMS sysgen macros**

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Type</th>
<th>Language</th>
<th>Schedule Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCMIVCMD</td>
<td>BATCH</td>
<td>COBOL</td>
<td>SERIAL</td>
</tr>
<tr>
<td>DCMIVPS1</td>
<td>BATCH</td>
<td>COBOL</td>
<td>SERIAL</td>
</tr>
<tr>
<td>CALLSUB</td>
<td>TP</td>
<td>PARALLEL</td>
<td>GPSB</td>
</tr>
<tr>
<td>CCFCMD00</td>
<td>TP</td>
<td>SERIAL</td>
<td>GPSB</td>
</tr>
<tr>
<td>CCFRED00</td>
<td>TP</td>
<td>SERIAL</td>
<td>GPSB</td>
</tr>
<tr>
<td>DFSAMP1</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
<tr>
<td>DFSAMP2</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
<tr>
<td>DFSAM04</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
<tr>
<td>DFSAM05</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
<tr>
<td>DFSAM14</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
<tr>
<td>DFSAM15</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
<tr>
<td>DFSAM24</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
<tr>
<td>DFSAM26</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
<tr>
<td>DFSIVPA</td>
<td>BATCH</td>
<td>SERIAL</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 28. Macro used to create a program definition**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSB Name</td>
<td>CCFCMD00</td>
<td>PSB (or GPSB) Name</td>
</tr>
<tr>
<td>RESIDENT</td>
<td>GPMBNAME0</td>
<td>PSB to remain resident in storage</td>
</tr>
<tr>
<td>DOPT</td>
<td>GPMBNAME0</td>
<td>Dynamic Option - reload PSB for each execution</td>
</tr>
<tr>
<td>GPSB</td>
<td>GPMBNAME0</td>
<td>Generic PSB</td>
</tr>
<tr>
<td>FPATH</td>
<td>GPMBNAME0</td>
<td>Fast Path</td>
</tr>
<tr>
<td>LANG</td>
<td>GPMBNAME0</td>
<td>GPSB Language</td>
</tr>
<tr>
<td>PGMTYPE</td>
<td>TP</td>
<td>Program Type</td>
</tr>
<tr>
<td>SCHDTYP</td>
<td>SERIAL</td>
<td>Schedule Type</td>
</tr>
</tbody>
</table>

**Figure 29. Macro used to create a definition for program and associated codes and route codes**

```
APPLCTN PSB=DFSSAM04,PGMTYPE=TP,LANG=COBOL
```

```
TRANSACT CODE=ADDINV,PRTY=(7,10,2),MODE=SINGL,DCLWA=YES, MSGTY=\(MULTSEG,\)NONRESPONSE,1
TRANSACT CODE=ADDPART,PRTY=(7,10,2),MODE=SINGL,DCLWA=YES, MSGTY=\(MULTSEG,\)NONRESPONSE,1
TRANSACT CODE=DELETINV,PRTY=(7,10,2),MODE=SINGL,DCLWA=YES, MSGTY=\(MULTSEG,\)NONRESPONSE,1
TRANSACT CODE=DELETPART,PRTY=(7,10,2),MODE=SINGL,DCLWA=YES, MSGTY=\(MULTSEG,\)NONRESPONSE,1
```
Viewing a transaction list and attribute values:

Use the transaction list to view the attributes for a list of transactions.

Because transaction definitions have a large number of attributes, the attributes for each transaction are split across three panels. Use the RIGHT and LEFT commands (typically PF Keys 10 and 11) to scroll to the second transaction list panel (Figure 31 on page 68) and the third transaction list panel (Figure 32 on page 68).

Use the S line command to display the IMS sysgen source macro that was used to create the transaction, as well as the list of attributes and values. Figure 33 on page 69 shows the results of using the S line command.

Use the P line command to display the IMS sysgen source for the program that is associated with the selected transaction, as well as the sysgen source for all of the transactions and route codes that are associated with that program. Figure 34 on page 69 shows the results of using the P line command.

![Figure 30. Transaction list created from IMS sysgen macros (part 1)]
### Primary Commands:
- **SORT**: Sort the List
- **L**: Locate an Entry

### Line Commands:
- **S**: View a Transaction Definition
- **T**: View Associated Program

<table>
<thead>
<tr>
<th>Primary Commands</th>
<th>Line Commands</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSCODE WF1</td>
<td>SERIAL MODE ROUTING DCLWA ULC EDITNAME FPATH AOI SCHD</td>
</tr>
<tr>
<td>A</td>
<td>NO</td>
</tr>
<tr>
<td>ADDINV</td>
<td>NO</td>
</tr>
<tr>
<td>ADDPART</td>
<td>NO</td>
</tr>
<tr>
<td>CALLSUB</td>
<td>NO</td>
</tr>
<tr>
<td>CLOSE</td>
<td>NO</td>
</tr>
<tr>
<td>DISBURSE</td>
<td>NO</td>
</tr>
<tr>
<td>DLETINV</td>
<td>NO</td>
</tr>
<tr>
<td>DLETPART</td>
<td>NO</td>
</tr>
<tr>
<td>DSPALLI</td>
<td>NO</td>
</tr>
<tr>
<td>DSPINV</td>
<td>NO</td>
</tr>
<tr>
<td>GHRTRAN1</td>
<td>NO</td>
</tr>
<tr>
<td>GHRTRAN2</td>
<td>NO</td>
</tr>
<tr>
<td>IMS6RMF1</td>
<td>NO</td>
</tr>
<tr>
<td>IMS7RMF1</td>
<td>NO</td>
</tr>
<tr>
<td>IMS9TRX1</td>
<td>NO</td>
</tr>
<tr>
<td>IMS9TRX2</td>
<td>NO</td>
</tr>
<tr>
<td>INSERT</td>
<td>NO</td>
</tr>
<tr>
<td>IVPREXX</td>
<td>NO</td>
</tr>
<tr>
<td>IVTCB</td>
<td>NO</td>
</tr>
</tbody>
</table>

---

**Figure 31. Transaction list created from IMS sysgen macros (part 2)**

<table>
<thead>
<tr>
<th><strong>---PRTY---</strong></th>
<th><strong>--PROCLIM--</strong></th>
<th><strong>SYSID</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSCODE CLS</td>
<td>NP</td>
<td>LP</td>
</tr>
<tr>
<td>A</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ADDINV</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>ADDPART</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>CALLSUB</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CLOSE</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>DISBURSE</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>DLETINV</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>DLETPART</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>DSPALLI</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>DSPINV</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>GHRTRAN1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>GHRTRAN2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>IMS6RMF1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>IMS7RMF1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>IMS9TRX1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>IMS9TRX2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>INSERT</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>IVPREXX</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

---

**Figure 32. Transaction list created from IMS sysgen macros (part 3)**
Viewing a route code list:

A route code list shows all defined routing codes and their attributes. Figure 35 on page 70 shows an example.
Viewing a DEDB randomizer list:

A DEDB randomizer list shows the names of all active DEDB randomizers and the names of all DEDB databases using the randomizer.

Figure 38 shows an example of a DEDB randomizer list. Note that there are no line commands available in a randomizer list.

---

**Figure 35. Route code list**

**Figure 36. Route code definition**

**Figure 37. Macro used to create a program definition associated with a route code**

**Figure 38. DEDB randomizer list example**
Validating IMS stage 1 sysgen source

Use option 5 of the Primary Options menu (see Figure 20 on page 59) to perform syntax validation of IMS sysgen macros. You can validate either IMS stage 1 sysgen source, or both IMS sysgen source and the security source.

To perform a gen source validation, an existing data set name must be specified which will contain IMS HP Sysgen Tools messages and the gen source listing. The data set must meet the following requirements:

- Must be a sequential data set (or a PDS with a member name specified)
- Allocation with DCB attributes of RECFM=FBA and LRECL=133
- Data set name must be entered on the panel shown in the following figure:

<table>
<thead>
<tr>
<th>Command</th>
<th>Option</th>
<th>IMSID</th>
<th>Output DSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>VALIDATE IMS HP Sysgen Tools - Validate IMS Gen Source</td>
<td>_</td>
<td>_</td>
<td>SYSGEN.OUTLIST</td>
</tr>
</tbody>
</table>

Figure 39. Initial panel for validating IMS gen source

In addition to entering the output DSN, you must select option 1 or 2 (for stage 1 or stage 1 and security gen validation), and enter the IMSID for which the gen source is to be validated.

The IMS sysgen source data set name information is obtained from the IMS Configuration information for the IMSID, which is set by selecting option 0 from the Primary Options menu.

The Fastgen process reads the gen source, builds interim control block in storage, and, if requested, reads security gen source and creates interim security control blocks. While the definitions are not written to any MODBLKS or MATRIX data sets, the process ensures that IMS sysgen source is valid, and that any security gen source has correct syntax and is consistent with the IMS sysgen source.

When the validation process completes, an ISPF browser panel provides the opportunity to review the Fastgen reports. The output of the validation process is the same as the output of the Fastgen batch process. It will contain source statement listings for all source that was read and any warning or error messages associated with the input. The reports of resource definitions are also included in the validation report.

Performing a Fastgen MODBLKS gen

Select option 6 of the IMS HP Sysgen Tools Primary Options menu, Figure 20 on page 59, to perform a MODBLKS IMS sysgen under ISPF. Depending on the size of the gen source, it might be easier to run the Fastgen process in batch (for more information, see Chapter 9, “Using Fast Sysgen in batch mode,” on page 157).

To perform a Fastgen, an existing data set name must be specified which will contain IMS HP Sysgen Tools messages and the gen source listing. The data set must meet the following requirements:
• Must be a sequential data set (or a PDS with a member name specified)
• Allocation with DCB attributes of RECFM=FBA and LRECL=133
• Data set name must be entered on the panel shown in Figure 40

In addition to entering the output DSN, you must select option 1 or 2 (for stage 1 or stage 1 and security gen), and enter the IMSID for which the gen is to be performed. In addition, you must select one or more target libraries which will be updated by the Fastgen process. The libraries selected refer to the MODBLKS and, if option 2 is selected, the MATRIX data set. You can choose to update either the staging libraries (MATRIX and MODBLKS data sets), the inactive libraries (the A or B versions of the MATRIX/MODBLKS libraries, whichever is inactive as determined by the MODSTAT or OLCSTAT data set), or both sets of libraries.

The IMS sysgen source data set name information is obtained from the IMS Configuration information for the IMSID, which is set by selecting option 0 from the Primary Options menu.

When the Fastgen process completes, an ISPF browse panel provides the opportunity to review the Fastgen reports. It will contain source statement listings for all source that was read and any warning or error messages associated with the input. The reports of resource definitions are also included in the validation report. At the end of stage 1 and at the end of the security gen reports, Fastgen link edit reports are generated showing which libraries and members were affected by the sysgen process.

**Reversing an IMS sysgen or security gen**

Use the reverse IMS sysgen and security gen processes to re-create IMS stage 1 sysgen or security gen source. The reverse security gen source uses the MATRIX, MODBLKS, or RESLIB data sets to re-create IMS security gen source. The reverse sysgen process can use the MODBLKS or RESLIB data sets, the RDDS data set, or the IMS control region control blocks that are in memory to re-create the IMS sysgen source.

The reverse sysgen process re-creates only the application definitions DATABASE, APPLCTN, TRANSACT, and RTCODE macros. IMS control macros and terminal/MSC related macros are not generated.
The reverse security gen process re-creates all security gen source although it might not be in the same sequence as the security gen source that created the MATRIX data set.

Select option 7 of the IMS HP Sysgen Tools Primary Options menu, Figure 20 on page 59 to access the reverse functions. The panel in Figure 41 is displayed.

<table>
<thead>
<tr>
<th>REVERSE</th>
<th>IMS HP Sysgen Tools - Reverse Sysgen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td>____________________________________</td>
</tr>
</tbody>
</table>

Option ==>  1 SYSGEN  Create IMS Stage 1 Macros from the current MODBLKS/RDDS data set
2 Security  Create IMS Security Gen Source from the current MATRIX data set

Note: To create IMS security gen source, your TSO userid must have read access to the IMS MATRIX data set specified in the following options panel.

Figure 41. Initial panel for performing reverse sysgen

Topics:
- "Reverse sysgen"
- "Reverse security gen" on page 76

Reverse sysgen:

Selecting a reverse sysgen displays the panel in Figure 42 on page 74 for specifying reverse sysgen options.

The Output Dataset field is required and must specify the data set name of an existing sequential data set (or member of a PDS) where the generated IMS sysgen source will be written. DCB attributes are required to be RECFM=FB and LRECL=80.

Attention: Do not specify your existing sysgen source DSN. If you do, the specified data set will be replaced with IMS sysgen source code that was generated from the MODBLKS data set.

Choose the source that you want to use for the reverse sysgen with the following options:

INCORE
This option uses the IMS control region storage to obtain information from the control blocks of the running IMS system. The running control blocks might be affected by commands such as /ASSIGN or /STA DB with the ACCESS= keyword. These commands will change your generated IMS sysgen source.

DASD
This option uses the active MODBLKS or RDDS data set as the source of the IMS resource definitions. This option creates source that matches IMS definitions as if IMS was cold started. If you use IMS sysgen, this option re-creates the source from your last IMS sysgen. This source is updated to include any IMS resource update lists that are installed.

MODBLKS
This option allows you to specify the data set names of MODBLKS and
RESLIB data sets and to specify an IMS nucleus suffix. IMS HP Sysgen Tools uses the specified libraries as the source for the resource definitions.

**RDDS** The RDDS option allows you to specify an RDDS data set name or to select one of the system RDDS data sets that are defined for the target IMS system. The data set is used as the definition source from which IMS sysgen source is generated.

For the INCORE and DASD options, you only need to specify the IMSID of the IMS system for which gen source should be re-created. The MODBLKS and RDDS options prompt you for the data set names that are used for IMS system definitions.

You can also choose to re-create only source for DATABASE macros, or only the source for APPLCTN, TRANSACT, and RTCODE macros. You can also choose both sets of macro definitions to re-create all of the gen source in a single file.

---

**Figure 42. Initial panel for performing reverse sysgen**

If you choose the MODBLKS option, the MODBLKS data set panel is displayed, as shown in the following figure:

---

**Figure 43. MODBLKS data set panel**

To specify MODBLKS information, enter the IMS nucleus suffix, which is specified in the SUF= parameter of the DFSPBxxx member of PROCLIB or in the SUFFIX= keyword of the IMSGEN macro in the IMS sysgen source. In addition, specify the IMS MODBLKS data set name and the IMS RESLIB data set name. The MODBLKS and RESLIB must have consistent sysgen information.
Specify the required information and press Enter. If you chose the MODBLKS option on the Reverse Sysgen panel, the MODBLKS data set panel is displayed, as shown in Figure 43 on page 74. If you chose the RDDS option on the Reverse Sysgen panel, the user RDDS panel is displayed, as shown in Figure 45.

**Figure 44. Loading MODBLKS definitions**

When IMS HP Sysgen Tools reads a MODBLKS data set to retrieve IMS system definitions, this panel in Figure 43 on page 74 is displayed while the MODBLKS modules are loaded and placed into tables. This panel shows the number of resources that are defined in the MODBLKS data set and the length of time that was spent loading the modules and tables.

**Figure 45. User RDDS panel**

In the User RDDS panel, you can enter an RDDS data set name in the RDDS DSN field, or you can select one of the system RDDS data set names that is used by the IMS system. Press Enter to display the reverse sysgen source panel, such as the one that is shown in Figure 46 on page 76.

After the sysgen source is re-created, an ISPF browse session shows the generated sysgen macros. An example of reverse MODBLKS is shown in Figure 46 on page 76. Note that a comment is inserted at the beginning of the generated source to identify the date and requesting user ID of the reverse sysgen.

The data that is displayed in the browse session has already been written to the Output DSN as specified on the request panel. The output data set can be edited or used as input to an IMS sysgen or an HP Sysgen Fastgen process.
This output has been written to the specified gen source data set and can be edited at any time. Press the End key (usually, PF3) to return to the reverse sysgen menu.

**Reverse security gen:**

If you select the reverse security gen option, the panel in **Figure 47** is displayed.

**Figure 47. Initial panel for performing reverse security sysgen**

The Output DSN field is required and must specify the data set name of an existing sequential data set (or member of a PDS) that the generated IMS sysgen source will be written to. DCB attributes are required to be RECFM=FB and LRECL=80.

**Attention:** Do not specify your existing sysgen source DSN. If you do, the specified data set will be replaced with IMS security gen source code that was generated from the MATRIX data set.
Choose the source you want to use for the reverse security gen from the following two options:

**MATRIX**
This option uses the active MATRIX data set as the source of the IMS security definitions. Use this option to re-create your last IMS security gens source, updated to include any changes from Resource Update Lists that were installed. You must specify only the IMSID of the IMS system for which security gen source should be re-created.

**USER**
This option allows you to specify the data set names of the MATRIX, MODBLKS, and RESLIB data sets, and specify an IMS nucleus suffix. IMS HP Sysgen Tools uses the specified libraries as the source for the security definitions. You must supply the names of the MATRIX, MODBLKS, and RESLIB data sets, and the IMS nucleus suffix from which security gen source will be re-created.

After the security gen source is re-created, an ISPF browse session shows the generated security gen macros. An example of reverse MATRIX is shown in Figure 48. Note that a comment is inserted at the beginning of the generated source to identify the date and requesting user ID of the reverse security gen.

The data displayed in the browse session has already been written to the Output DSN as specified on the request panel. You can edit the output data set or you can use it as input to an IMS security gen or an HP Sysgen Fastgen process.

---

Figure 48. Generated IMS security gen source statements

**Reviewing the HP Sysgen history log**

The IMS HP Sysgen Tools log contains an audit trail of all changes to the environment introduced by the ISPF interface. The log shows all commands entered using the ISPF interface (except /DISPLAY commands), shows storage zaps performed, changes to IMS resource or security definitions, and ACBLIB reloads. The log contains the time of each activity, as well as the Resource Update List name (where appropriate), and the user ID which performed the change or installed the Resource Update List.
Option 8 from the IMS HP Sysgen Tools Primary Options menu, allows you to review and act upon entries in the log.

<table>
<thead>
<tr>
<th>LOG</th>
<th>IMS HP Sysgen Tools - HP Sysgen Log</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>View View HP Sysgen Update Log</td>
</tr>
<tr>
<td>2</td>
<td>Reverse Create IMS Macro Definitions from the HP Sysgen Log</td>
</tr>
<tr>
<td>3</td>
<td>Maintain Remove Old LOG Entries</td>
</tr>
<tr>
<td>4</td>
<td>Undo Undo One or More Resource Updates</td>
</tr>
</tbody>
</table>

**Figure 49. HP Sysgen history log menu**

**VIEW**  
Use this option to review log entries that document each individual resource change and IMS command in the log. Use the Gen Source feature to update the log to show which resource updates have been included in the IMS sysgen source.

**REVERSE**  
Use this option to reverse log entries into IMS sysgen source and to generate macros and comments that can be used to update IMS sysgen source to make it consistent with the current system definition.

**MAINTAIN**  
Use this option to remove entries from the log that are no longer needed.

**UNDO**  
Use this option to create a Resource Update List that will reverse user-selected individual resource updates.

**Topics:**
- “Synchronizing IMS sysgen source with IMS resource definitions” on page 79
- “Viewing the log” on page 79
- “Reversing log entries” on page 81
- “Maintaining the log” on page 84
- “Reversing changes (undo)” on page 85

**Synchronizing IMS sysgen source with IMS resource definitions:**

By using IMS HP Sysgen Tools, you can make changes to your IMS sysgen resources without actually running an IMS sysgen. However, doing this can cause problems when an IMS sysgen needs to be performed for maintenance or terminal definitions. There are two ways to manage your IMS sysgen source when you are using IMS HP Sysgen Tools to dynamically change IMS resource definitions.

One way to ensure that your IMS sysgen source is in sync with your executing IMS control region is to use Generate to create new IMS sysgen source every time you want to perform an IMS sysgen. IMS HP Sysgen Tools provides the capability to reverse your MODBLKS data set and create a full set of IMS sysgen source that will ensure that your sysgen source is in sync with your executing IMS system. When you use this option, however, any comments that you have in your IMS sysgen source are lost when the source is recreated from the MODBLKS data set.

Another way to maintain your IMS sysgen source is to update your sysgen source with each individual update that was performed by IMS HP Sysgen Tools in
response to user-installed Resource Update Lists. IMS HP Sysgen Tools provides two tools that can help manage sysgen source maintenance when using this method.

**History log**
The History log tracks that each resource update in the log was reflected by changing your IMS sysgen source. After your IMS sysgen source is updated for an entry in the log, use the Y line command on that log entry to update the GEN SRC flag to show that the update is included in your IMS sysgen source. Refer to “Viewing the log,” for more information.

**Reverse log entry function**
Use the IMS HP Sysgen Tools log reverse function to create IMS sysgen macros that will update your IMS sysgen source and track which resource update entries in the log are already included in your gen source. This method determines if there are any log entries that are not included in your IMS sysgen source. Refer to “Reversing log entries” on page 81 for more information.

**Viewing the log:**

**About this task**

Complete the following steps to view the log:

1. Select option 1 from the IMS HP Sysgen Tools history log menu to display an empty log view panel. A valid IMSID is required to retrieve and display log entries.

   ![LOG IMS HP Sysgen Tools - HP Sysgen Log Information](image)

   **Figure 50. Empty log view panel**

   After the IMSID is entered, log entries from the associated log are displayed. The entries are presented in descending time order, as shown in Figure 51 on page 80.
2. Sort the log entries by using the **SORT** primary command followed by the column name. You can sort the log by any column name on the panel. For example, to sort the log entries by the user ID which installed each entry, enter **SORT USERID**.

3. For IMS HP Sysgen Tools resource entries, you can track whether IMS sysgen source has been updated to reflect the change represented by a log entry. Enter the **Y** line command the change the GEN SRC field to YES for a sysgen update entry. You can use this to indicate that the sysgen source has been updated for this log entry. You can also use the **N** line command to change the GEN SRC field back to NO.

4. Select a log entry by using the **S** line command to display the details of the change. The panel in [Figure 52 on page 81](#) shows an example of a sysgen resource change, including the IMS sysgen macro that reflects the updated resource definition and the old and new values of the resource attributes. Similar information is displayed for other resource updates. Security changes, IMS commands, Resource Update List commands (LIST-CMD entries), ACB reloads, and storage zaps display similar information about the updated information, including before and after values of attributes wherever appropriate.
Reversing log entries:

About this task

When an IMS sysgen is required for maintenance, a new release, or TM configuration changes, IMS application source macros (DATABASE, APPLCTN, TRANSACT, and RTCODE statements) should be updated to reflect the current configuration.

Complete the following steps to update the IMS application source macros:

1. Select option 7 from the IMS HP Sysgen Tools Primary Options menu, Figure 20 on page 59.

   A complete replacement of application IMS sysgen source macros is generated.

   To maintain existing IMS sysgen source, with comments intact, the reverse log entry function provides a report showing changes required to update IMS sysgen source to reflect all changes installed through Resource Update Lists.

2. Select option 2 from the IMS HP Sysgen Tools history log menu to define the requirements for the IMS sysgen source report. The Create sysgen source from log panel, Figure 53 on page 82, is displayed.
LOG IMS HP Sysgen Tools - Create IMS Sysgen Source from Log

Command ===> __________________________________________________________________

Option ===> _
1 DATE Generate IMS Sysgen source for History entries by Date
2 GEN SRC Generate IMS Sysgen source for History entries with GEN SRC = N

For option 1 or 2:
IMSID ===> ____

Output Data Set for Reverse Sysgen Process:
Output DSN ===> ______________________________________________________
{Include quotes when entering a fully qualified DSNAME}

For option 1: Specify Date range (current Julian date is 2005.296)
Start Date ===> 0000.000
Stop Date ===> 2005.212

Figure 53. Create sysgen source from log

3. Select option 1 to select log entries to reverse by date or select option 2 to select
   log entries by the setting of the GEN Source flag.
4. Specify the IMSID of the log that is to be used to select entries.
5. Specify an Output DSN. The Output DSN must be an existing data set with
   LRECL=80 and RECFM=FB.
6. If you selected option 1, specify a date range.
   If you select entries by date, you must specify a start and stop date for the
   entries. These dates must be Julian dates with a 4-digit year (for example,
   2007.001 for January 1, 2007). The current Julian date is always shown on the
   panel.

After processing input entered on the Create IMS Sysgen Source from Log
panel, Figure 53 IMS HP Sysgen Tools populates the data set with a report
showing all resource adds, deletes, and updates that would be required for IMS
sysgen source to reflect the online configuration.

The report, which is generated in IMS sysgen source format, shows each
resource definition and comments reflecting information about all changes to
the resource. DATABASE macros are listed first, and are sorted by the database
name. Next, APPLCTN (program) resources are listed (in PSB name order),
along with any associated transactions or route codes that were also updated.
After all APPLCTN macros are listed, any TRANSACT or RTCODE macros
changed by Resource Update Lists, but not associated with a program
definition that was updated by a Resource Update List, are shown.

Figure 54 on page 83 shows an example of the format of a sysgen report. An
asterisk is used in column 1 to designate a comment to the high level
assembler, the utility that processes an IMS stage 1 sysgen. This means that
comment lines can be included in the IMS sysgen source as shown in the report
to reflect historical information about who changed a resource definition and
when.
Resources that were deleted by installation of a Resource Update List have three asterisks beginning in column 1.

In Figure 54, the first entry includes comments about the deletion of database AAA, and the user ID and timestamp of the installation of the Resource Update List that performed the deletion. You can retain these report comments, which include an asterisk in column 1, in the IMS sysgen source as presented because the asterisk makes them a comment within the IMS gen source. Because the first entry in the report is a delete of database AAA, the macro is preceded by three asterisks, making this line a comment in the IMS sysgen source, as well.

The second entry shows a database, DBSHR0, which was updated in two Resource Update Lists. It shows the user ID which installed each Resource Update List, as well as the timestamp when the Resource Update List was installed. The DATABASE macro that follows the comments shows the database as it should be defined to reflect the original definition and the two updates.

The first APPLCTN entry shows an example of an updated program definition. The two comments show the update user and timestamps, and the definition that follows shows how the APPLCTN macro should be coded to reflect the changes made in the two Resource Update Lists that were installed. Following the APPLCTN macro is a TRANSACT definition for transaction A. This transaction appears in this location because it must follow the APPLCTN definition for the prior APPLCTN macro. The comment immediately preceding the TRANSACT macro for transaction A states that the transaction must be associated with PSB DFSSAM01, the prior PSB name in the report.

Following the comments is the TRANSACT macro, itself, as it should appear in the sysgen source.
Maintaining the log:

About this task

The IMS HP Sysgen Tools log data set might become filled with Resource Update List entries. Also, you might want to remove entries from the log when the IMS sysgen source is updated to reflect the entries in the log. To remove log entries, use the log maintenance function.

Because the IMS HP Sysgen Tools log is used only for historical reporting, there is no requirement to maintain log entries for any reason other than the reporting functions documented in this section. The log is not used by IMS or IMS HP Sysgen Tools to maintain the sysgen definitions.

To remove entries from the log:

1. Select option 3 (Maintain) from the IMS HP Sysgen Tools History Log menu. The IMS HP Sysgen Tools log maintenance panel is displayed, Figure 55.

   ![Figure 55. Maintaining an IMS HP Sysgen Tools log](image)

2. Select a method for determining which log entries are to be deleted. You can either delete entries based on their date, or you can delete entries based on the setting of the GEN SRC flag. Option 1 allows you to specify start and stop dates for log entries to be deleted. Option 2 allows you to delete only database, program, transaction, or route code add/delete/update records which have the GEN SRC field set to YES (indicating that IMS sysgen source has been updated to reflect the change indicated by the log entry).

   If you select entries by date, you must specify the type of log entries to be deleted. Select any or all of the three types of log entries by placing a non-blank character to the left of the record type description. You must also specify a start and stop date for entries to be deleted. These dates must be Julian dates with a 4-digit year (for example, 2005.001 for January 1, 2005). The current Julian date always appears on the panel for reference.

   If you select option 2, you need only to populate the IMSID field. However, only the following records are deleted:

   - database
   - program
   - transaction route code update, add, and delete records with the GEN SRC field set to YES
No Command, Reload, Zap, or IMS Security records are deleted.

3. The IMSID field is required for both options 1 and 2. Enter a valid IMSID, which defines the HP Sysgen log data set to be updated by the maintenance process.

4. Press Enter.

   The Log Status panel is displayed, Figure 56, which shows the number of log records before and after the log maintenance and the number of log entries that were removed.

   ![Figure 56. Log Status panel](image)

**Reversing changes (undo):**

**About this task**

You can use IMS HP Sysgen Tools to reverse changes to IMS resource and security definitions. By using the IMS HP Sysgen Tools history log, you can select specific resource or security updates, and generate a Resource Update List which reverses the effects of the selected log entries.

To use the UNDO function:

1. Select option 4 from the IMS HP Sysgen Tools History Log menu.

   The IMSID selection panel for undo, shown in Figure 57, is displayed.

   ![Figure 57. The IMSID selection panel for Undo](image)

2. Enter the IMSID for the resource updates that are to be backed out, and press Enter.

   The Selecting Log Entries to Undo panel, Figure 58 on page 86, is displayed.
This panel contains a table of history log entries of IMS resource updates that have been installed for the selected IMS subsystem. It also shows an example of a history log undo list. This panel is the same as the view log panel, except that IMS command entries are not included in the display, because those entries cannot be undone.

3. Use the S line command to view details of a log entry such as which attributes were changed and what the old and new values are.

4. Use the U line command to mark a log entry for undo processing.

You can continue to scroll through the list of log entries, select entries to review the details of a change, and mark entries for undo processing.

The marked entries will be used to create a new Resource Update List, which will have the effect of reversing the entries that you marked. Because a Resource Update List can have only a single entry that affects a given resource, make sure that you select only one log entry for a given resource. For example, the last two entries show updates to transaction IMSCMD. You should not select both of these entries to undo because this will generate two transaction updates in the Resource Update List that will be created. If you try to install the new Resource Update List, an error will result because transaction IMSCMD has two updates in the Resource Update List.

When multiple entries occur in the log, make sure that you select the correct entry to undo. For example, in Figure 58 there are two entries at the bottom of the panel that update transaction IMSCMD. Selecting the IMSCMD update entry with timestamp 11:41:09 will back out only that log entry. The IMSCMD update entry with timestamp 09:50:05 becomes the new entry because that definition of IMSCMD was active when the 11:41:09 entry was installed. If, however, you choose the 09:50:05 entry to back out, both the 09:50:05 and the 11:41:09 updates to transaction IMSCMD would be backed out, reverting the definition to the way it was before the 09:50:05 install.

5. Press Enter.

6. Press Enter again.

If you press Enter again without making any changes or scrolling, you will set the entries to be backed out and will proceed to the next panel.
7. Specify a Resource Update List name where the undo entries will be created. The member name that you specify must be a new member name in the IOHPDS data set. If an existing member name is entered, a warning message will be displayed, and you must change the member name to a name that is not already in use.

After you specify a valid member name, the edit panel, Figure 60, is displayed.

8. Review the entries that were generated by the undo process and make changes to the entries, or add and delete entries from the update list.

9. Press End (PF3) to save the new Resource Update List.

You can now verify and install the update list or leave the update list for installation at a later time.

**Issuing IMS commands**

IMS HP Sysgen Tools allows you to enter an IMS command and receive the output of the command.

Use option C from the Primary Options menu, Figure 20 on page 59, to enter IMS commands. Specify an IMSID and an IMS command to see results displayed as in Figure 61 on page 88.
You can scroll the output by using standard ISPF scroll keys. You can enter another command on the panel. The output of that command will replace that of the initial command.

To re-issue the previous command, enter the GO command on the Command line and press Enter. The updated results are displayed. Any IMS commands that are issued this way (other than /DISPLAY commands) are logged in the HP Sysgen log for the specified IMSID.

**Dynamic Resource Definition (DRD) Status**

IMS HP Sysgen Tools provides an ISPF panel that allows you to query the status of the Dynamic Resource Definition (DRD) and the system RDDS data sets that IMS uses.

If you select this ISPF option and specify an IMS system that has DRD disabled, the DRD status panel will indicate that DRD is disabled. If you specify an IMS system that has DRD enabled, the DRD status panel will list all the system RDDS data sets. The panel lists the status and the last update timestamp for each RDDS data set.

To display the DRD status panel, select option D from the IMS HP Sysgen Tools main menu. Complete the prompt to enter an IMSID that is known to IMS HP Sysgen Tools. The following panel is displayed.
Storage functions

IMS HP Sysgen Tools includes the following two functions which address use of MVS virtual storage:
- One function allows you to review MVS virtual storage area boundaries and use and provides information such as private area sizes and CSA utilization.
- The other function allows you to view virtual storage being used by an IMS control region and to change that storage.

Access to these two functions is provided by selecting option S of the Primary Options menu. (see Figure 20 on page 59). Selecting option S displays the menu shown in Figure 63.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Map Virtual Storage Map for this MVS system</td>
</tr>
<tr>
<td>2</td>
<td>Storage IMS Control Region Storage Display/Alter</td>
</tr>
</tbody>
</table>

**Figure 63. Storage menu**

Option 1 of the Storage menu provides access to virtual storage boundaries and usage.

Option 2 provides access to the virtual storage Display and Alter function.

Topics:
- “Option 1. Virtual Storage Map for this MVS system”
- “Option 2. Virtual storage display and alter” on page 90
- “Storage display panel” on page 92
- “Storage Zap panel” on page 93
- “Zap Verify panel” on page 94

**Option 1. Virtual Storage Map for this MVS system:**

Option 1 of the Storage menu provides information about MVS virtual storage configuration for the system where the TSO user is logged on. It provides the
length of storage areas as well as the starting and ending addresses of those areas. For CSA and SQA areas of storage, it also provides information about the percent utilization of the area of storage.

Figure 64 shows an example of the information displayed when you select option 1.

<table>
<thead>
<tr>
<th>SMAP IMS HP Sysgen Tools - Storage Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command ===&gt; __________________________</td>
</tr>
<tr>
<td>Virtual Storage Area</td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>Extended Private Area</td>
</tr>
<tr>
<td>Extended CSA (Common Storage Area)</td>
</tr>
<tr>
<td>Extended Link Pack Area</td>
</tr>
<tr>
<td>MLP A (Modifiable Link Pack Area)</td>
</tr>
<tr>
<td>FLPA (Fixed Link Pack Area)</td>
</tr>
<tr>
<td>PLPA (Pageable Link Pack Area)</td>
</tr>
<tr>
<td>Extended SQA (System Queue Area)</td>
</tr>
<tr>
<td>Extended Nucleus</td>
</tr>
<tr>
<td>Link Pack Area</td>
</tr>
<tr>
<td>Nucleus</td>
</tr>
<tr>
<td>SQA (System Queue Area)</td>
</tr>
<tr>
<td>CSA (Common Storage Area)</td>
</tr>
<tr>
<td>Private Area</td>
</tr>
</tbody>
</table>

Figure 64. Virtual storage map

This panel shows the virtual storage areas, the length of each area, and the starting and ending virtual storage addresses. For common storage pools (CSA, ECSA, SQA, and ESQA), the panel shows the percent of the area in use.

The "Pct Alloc" column shows the percent of the storage area that is allocated and used. Common areas are always allocated in 4K storage areas, even if an application requests 1K area of the pool. The percent allocated column shows only the storage actually being used. In this case, it would show that 3K of the 4K area is free.

This information can be useful for determining private area sizes that are available to applications, as well as showing the utilization of the CSA and ECSA storage areas. IMS uses significant amounts of both CSA and ECSA; therefore, this information may be useful when reviewing IMS tuning parameters.

Option 2. Virtual storage display and alter:

Option 2 of the Storage menu provides access to the IMS control region storage Display and Alter function. This option allows you to display contents of storage in the IMS, DLISAS, or DBRC address spaces.

Storage request panel:

When option 2 of the Storage menu is selected, the Storage Request panel is displayed, as shown in Figure 65 on page 91.
The storage request panel allows you to display storage in one of the IMS address spaces. A request is specified using the five entry fields in the upper portion of the panel. These fields are described below.

**IMSID**

The IMSID of an IMS subsystem that is defined to IMS HP Sysgen Tools and is currently active.

**Address space**

The address space that contains the storage to be displayed. This must be specified as IMS DLISAS, or DBRC.

**Address**

The address of the storage to be displayed. IMS HP Sysgen Tools allows you to use symbolics when specifying the address. See “Specifying an Address” below for details on how to specify an address.

**Length**

The length of storage to be displayed. If you specify the address as a symbolic address, IMS HP Sysgen Tools determines the length of the control block or module you request. If you want IMS HP Sysgen Tools to determine the length to be displayed, leave the Length field blank.

**Comment**

This is an optional field that you can use to document the storage being displayed. It is saved in Past Storage Display Information in the bottom portion of the panel.

You can use Past Storage Display Information entries in the following ways:

- Select one of the entries and retrieve storage from the requested IMS system.
- Delete entries in the table by entering a /D line command.
- Update the Comments field by entering or updating the information in the Comments field.

**Specifying an address**

You can specify the Address field of the Storage Request panel as a hexadecimal address or as a symbolic address. IMS HP Sysgen Tools supports symbolic values that can be used in the address field. The following symbolic names are supported:
Table 7. Valid symbolic values for address field of Storage Request panel

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVT</td>
<td>Displays the MVS communication vector table</td>
</tr>
<tr>
<td>SCD</td>
<td>Displays the IMS system contents directory</td>
</tr>
<tr>
<td>MOD (name)</td>
<td>Displays the specified module name</td>
</tr>
<tr>
<td>CLB(name) or NODE(name)</td>
<td>Displays the CLB for the node name entered</td>
</tr>
<tr>
<td>CNT(name) or LTERM(name)</td>
<td>Displays the CNT for the LTERM name entered</td>
</tr>
<tr>
<td>SMB(name) or TRAN(name)</td>
<td>Displays the SMB for the tran name entered</td>
</tr>
<tr>
<td>DDIR(name) or DBD(name)</td>
<td>Displays the DDIR for the database name entered</td>
</tr>
<tr>
<td>PDIR(name) or PSB(name)</td>
<td>Displays the PDIR for the PSB name entered</td>
</tr>
<tr>
<td>RCTE(name)</td>
<td>Displays the RCTE for the route code name entered</td>
</tr>
<tr>
<td>LINK(number)</td>
<td>Displays the LLB for the MSC link number entered</td>
</tr>
<tr>
<td>MSPLINK(name)</td>
<td>Displays the LCB for the MSPLINK name entered</td>
</tr>
<tr>
<td>MODLIST</td>
<td>Displays a list of all modules loaded in the target address space</td>
</tr>
</tbody>
</table>

In addition to the symbolic names above, you can include offsets and indirection. An offset is specified by adding a plus (+) or minus (-) after an address followed by a hexadecimal number. Indirection causes the four bytes at the specified address to be used as the address to be displayed. The percent sign (%) indicates that the four-byte address is to be treated as a 24-bit address, while a question mark (?) indicates that the four-byte address is to be treated as a 31-bit address.

Combining the symbolic address with offset and indirection allows the address field to become a powerful storage tool. For example, address SCD+1D8? causes IMS HP Sysgen Tools to find the IMS SCD, go to offset 1D8 of the SCD, and then use the 31-bit address at offset 1D8 as the starting address of storage to be displayed. In an IMS 8.1 environment, this would display the first PDIR control block defined in the last IMS sysgen.

Storage display panel:

After a valid request is entered on the Storage Request panel, storage is displayed, and the panel shows hexadecimal and text format displays of the storage requested, as well as the address and offset on each line. You can also use the indirection operators (% for a 24-bit address or ? for a 31-bit address) on any fullword on the panel to display the storage at the address in that fullword.

The Storage Display panel is shown in Figure 66 on page 93.
The panel shows the address of the storage in the first column and the offset from the beginning of the display in the second column. The next four columns are 16 bytes of storage at that address. The last column is the EBCDIC text representation of the 16 bytes of storage.

Preceding each hexadecimal word of storage is a column where an indirection operator can be placed. Placing a percent sign (%) before a word causes that word to be treated as a 24-bit address, and causes the storage at that address to be displayed.

From the storage Display panel, you can press the End key (typically PF3) to return to the Storage Request panel, or enter the /ZAP command on the Command line. The /ZAP command allows you to change the storage currently displayed.

Storage Zap panel:

The Storage Zap panel allows you to update storage displayed on the panel. The Storage Zap panel, shown in Figure 67 on page 94, allows you to type over any of the hexadecimal storage values. This is the first step in the storage alter process.
To update the storage that IMS is using, simply type over the current values displayed on the Zap panel with new values. Entering the values on this panel does not cause the storage to be updated until you verify the updates on the next panel.

You can press the End key (typically, PF3) to return to the storage display panel, or update one or more hexadecimal values on the panel, and enter the /GO command on the Command line. The /GO command provides a summary of the changes made and allows you to verify them before installing the changes to the storage values.

Zap Verify panel:

The Zap Verify panel shows all changes that were entered on the Zap panel. It allows you to verify that the changes were what you intended. An example of the Zap Verify panel is shown in Figure 68.

Figure 67. Storage zap panel

To update the storage that IMS is using, simply type over the current values displayed on the Zap panel with new values. Entering the values on this panel does not cause the storage to be updated until you verify the updates on the next panel.

You can press the End key (typically, PF3) to return to the storage display panel, or update one or more hexadecimal values on the panel, and enter the /GO command on the Command line. The /GO command provides a summary of the changes made and allows you to verify them before installing the changes to the storage values.

Zap Verify panel:

The Zap Verify panel shows all changes that were entered on the Zap panel. It allows you to verify that the changes were what you intended. An example of the Zap Verify panel is shown in Figure 68.

Figure 68. Zap verify panel

The Zap Verify panel displays old and new values for each storage change that was entered on the Storage Zap panel. This panel shows the address and offset as well as the old and new hexadecimal and text values of all updated storage values.
You should carefully review the information displayed on the Zap Verify panel. If there are unintended or incorrect updates, use the End key (typically, PF3) to return to the Storage Display panel. If the changes are correct, enter the /ZAP command on the Command line to update the storage values.

**Attention:** If you change a storage value, the results may be unpredictable. Be sure that you understand all implications of a storage change before you update storage values.

**Generating JCL for batch utilities**

The IMS HP Sysgen Tools ISPF interface includes a function which can be used to generate JCL for many of the IMS HP Sysgen Tools batch utilities.

Option U (Utilities) on the IMS HP Sysgen Tools Primary Options menu provides access to this function.

The JCL Generator menu shown in Figure 69 shows the batch utilities available through this process.

<table>
<thead>
<tr>
<th>Option</th>
<th>JCL Generator Menu Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Setup Set Data Set Names used in Generated JCL</td>
</tr>
<tr>
<td>1</td>
<td>Fastgen Perform a Fast IMS MODBLKS Sysgen</td>
</tr>
<tr>
<td>2</td>
<td>JCLIN Create JCLIN from a MODBLKS data set</td>
</tr>
<tr>
<td>3</td>
<td>Verify Verify a Resource Update List in Batch</td>
</tr>
<tr>
<td>4</td>
<td>Install Install a Resource Update List in Batch</td>
</tr>
<tr>
<td>5</td>
<td>Synchronize Create a Resource Update List to Synchronize Gen Source</td>
</tr>
<tr>
<td>6</td>
<td>Convert Convert IMS sysgen source to a Resource Update List</td>
</tr>
<tr>
<td>7</td>
<td>Compare Compare two sets of IMS MODBLKS data sets</td>
</tr>
<tr>
<td>8</td>
<td>Reverse Reverse MODBLKS/IMS Control Blocks to Create IMS Sysgen Source</td>
</tr>
</tbody>
</table>

**Figure 69. Utilities menu for generating JCL for running batch utilities**

**Topics:**

- “Setting up to use the JCL generator”
- “Using the JCL generator” on page 96

**Setting up to use the JCL generator:**

Before using any of the other options, you should use option 0 to specify a JOB card and provide the data set name of the SIOHLINK library which should be used by the generated jobs. Select option 0 to provide this required information to IMS HP Sysgen Tools.

If you select a different option before selecting option 0, the Setup panel will be displayed before you can proceed.

**Figure 70 on page 96** shows an example of a completed setup screen.
When initially displayed, the Setup panel has no JOB card JCL or the data set name for the load library. You should enter valid JOB card information on the four lines provided, and enter the fully-qualified data set name of the SIOHLINK data set. Press the Save key (usually PF3) to save this information in your ISPF profile, where it will be retained for future use.

Using the JCL generator:

To use the JCL Generator, return to the JCL Generator menu shown in Figure 69 on page 95.

To create JCL, simply specify the IMSID for which you wish to create JCL, and then select the option number corresponding to the batch utility you wish to run.

The IMSID must be defined for use by IMS HP Sysgen Tools through the IMSID Setup process.

The batch utilities for which the JCL Generator will produce JCL include the following:

- Fastgen - The Fast IMS sysgen utility documented in Chapter 9, “Using Fast Sysgen in batch mode,” on page 157, which performs a single step IMS MODBLKS stage 1, stage 2, and security gen.
- JCLIN - The IMS HP Sysgen Tools JCLIN generator documented in Chapter 10, “Using the JCLIN generator,” on page 179, which generates an IMS stage 2 job stream which can be used by the SMP/E JCLIN function.
- Verify - The batch Resource Update List utility described in “Using the batch update list utility” on page 151, which verifies a Resource Update List.
- Install - The batch Resource Update List utility described in “Using the batch update list utility” on page 151, which installs a Resource Update List.
- Synchronize - The stage 1 convert utility for converting sysgen macro to Resource Update List described in Chapter 8, “Creating Resource Update List entries in batch,” on page 145, which synchronizes your IMS stage 1 sysgen source with a running IMS subsystem.
- Convert - The stage 1 convert utility for converting sysgen macro to Resource Update List described in Chapter 8, “Creating Resource Update List entries in batch,” on page 145, which converts a subset of IMS sysgen source into a Resource Update List.
- Compare - Compares two sets of MODBLKS and MATRIX data sets. For more information see, Chapter 11, “Using Sysgen Compare,” on page 181.
Reverse - Generate IMS sysgen source from either an active IMS system or from the active MODBLKS data set for an IMS subsystem. For more information, see Chapter 12, “Batch Reverse Sysgen utility,” on page 185.

When you select a function and press Enter, IMS HP Sysgen Tools displays a batch job in an ISPF Edit session. You can use the CREATE or REPLACE ISPF command to save the generated JCL, make changes to the JCL using standard ISPF Edit commands, or use the ISPF SUBMIT command to submit the batch job for processing.

When you are finished with the generated JCL, press the End key (usually, PF3) to return to the JCL generator menu.

Important: You must use the CREATE or REPLACE ISPF command to save the generated JCL, or it is discarded.

It is recommended that you always review generated JCL before submitting it. In the example in Figure 71 on page 98, Fastgen JCL was created by the JCL generator. All data set names were retrieved from the IMSID options for the selected IMS subsystem, but in some jobs, certain data set names may not be stored in the IMSID options. In such cases, the JCL generator typically creates JCL symbolics which are placed at the top of the JCL. Options which can be documented as JCL symbolics are also placed at the top of the job, such as the TARGET=JCL symbolic shown in Figure 71 on page 98.

When control card input is required for a utility, the JCL generator typically places question marks in a control card that requires user input. You should always review any control cards in generated JCL to ensure that the options you want to process are specified.

An example of generated JCL is shown in Figure 71 on page 98.
**Figure 71. Sample generated JCL for running batch utilities**

```
EDIT Columns 00001 00072
Command ===>
****** ****************************************** Top of Data ******************************************
000001 //IOHJOB JOB (ACCT#),MARKA,CLASS=A,MSGCLASS=X,NOTIFY=P390M,
000002 // REGION=4M
000003 /*
000004 /*
000005 ///////////////////////////////////////////////////////////////////////
000006 /*
000007 /* IMS HP SYSGEN FASTGEN BATCH JCL FOR IMS IMS9
000008 /*
000009 /* SPECIFY THE FOLLOWING VARIABLES:
000010 /*
000011 // SET TARGET=VALUE TARGET LIBRARIES TO BE UPDATED (S,I,A,B)
000012 /*
000013 ///////////////////////////////////////////////////////////////////////
000014 //FGEN EXEC PGM=IOHFGEN,PARM='IMSID=IMS9,TARGET=(&TARGET)'
000015 //STEPLIB DD DSN=IMS.IOH230.SIOHLINK,DISP=SHR
000016 // DD DSN=IMS910.SDFSRESL,DISP=SHR
000017 //IOHOPT DD DSN=P390M.IOH.IOHOPT,DISP=SHR
000018 //IOHPRINT DD SYSOUT=*
000019 //IMSGEN DD SYSOUT=*
000020 //SECGEN DD SYSOUT=*
000021 //IMSRPT DD SYSOUT=*
000022 //SECRPT DD SYSOUT=*
000023 //SYSABEND DD SYSOUT=*
000024 //OLCSTAT DD DSN=IMS910.OLCSTAT,DISP=SHR
000025 //MODBLKS DD DSN=IMS910.MODBLKS,DISP=SHR
000026 //MODBLKSA DD DSN=IMS910.MODBLKSA,DISP=SHR
000027 //MODBLKSB DD DSN=IMS910.MODBLKSB,DISP=SHR
000028 //MATRIX DD DSN=IMS910.MATRIX,DISP=SHR
000029 //MATRIXA DD DSN=IMS910.MATRIXA,DISP=SHR
000030 //MATRIXB DD DSN=IMS910.MATRIXB,DISP=SHR
000031 //IOHGEN DD DSN=IMS910.IMSGEN.CNTL(IMS9MACS),DISP=SHR
000032 //IOHSEC DD DSN=IMS910.IMSGEN.CNTL(SECURITY),DISP=SHR
000033 //

****** ****************************************** Bottom of Data ******************************************
```

User's Guide
Chapter 5. Editing a Resource Update List

The features of a Resource Update List are introduced in "Resource Update Lists" on page 7. A Resource Update List is a group of IMS sysgen changes that are to be implemented simultaneously. Use option 2 of the IMS HP Sysgen Tools Primary Options menu to create a Resource Update List.

The IMS HP Sysgen Tools Primary Options menu contains a field for the IOHPDS data set name. The IOHPDS data set is where Resource Update Lists are stored. Each Resource Update List comprises a member of the IOHPDS data set. Each user can have his or her own IOHPDS data set, or the IOHPDS data set can be shared. The data set name on the Primary Options menu is carried across ISPF sessions, so there is no need to remember the name between IMS HP Sysgen Tools uses.

Topics:
- “Starting an edit session”
- “Selecting a Resource Update List” on page 100
- “Performing an edit” on page 103
- “Updating an AGN definition” on page 125

Starting an edit session

About this task

Before selecting option 2 from the Primary Options menu, you must enter a valid data set name in the IOHPDS Data set Name field. See the example in Figure 72.

IMS HP Sysgen Tools
Option ===> ______________________________________________________________
0 Setup IMS Configuration User P390M
1 View Display IMS Resource Definitions Date 06/11/03
2 Edit Create an IMS Resource Update List Time 21:46
3 Verify Verify an IMS Resource Update List z/OS 01.07.00
4 Install Implement an IMS Resource Update List Sysname ADCD
5 Validate Syntax Check Stage 1 Sysgen Source JESNode N1
6 Fastgen Perform a Fast IMS Sysgen Sysplex ADCDPL
7 Reverse Create Stage 1 Source from MODBLKS
8 History Review Historical Log Information
C Command Issue an IMS Command
D DRD Dynamic Resource Definition Status
5 Storage z/OS Virtual Storage Utilities
U Utilities Generate JCL for HP Sysgen Batch Jobs
IOHPDS Data Set Name ===> IMS.IOH.IOHPDS
(Fully qualified DSNAMe without quotes)

Figure 72. HP Sysgen primary options menu
Selecting a Resource Update List

After you enter the IOHPDS data set name and select option 2, the existing members, if any, of the IOHPDS data set are displayed as shown in Figure 73. This panel shows existing members of the IOHPDS data set, also called the existing Resource Update Lists.

Figure 73. Screen 1 of sample list of data set members in Resource Update List

After the Update List Selection screen is displayed, you can scroll right and left to view the three screens of summary information on the update lists. The first screen shows the following fields:

NAME
The member name of the Resource Update List.

TARGET
The last target IMSID or group name which was used with the Resource Update List.

STATUS
The last action taken with the Resource Update List. A status of VERIFY or INSTALL is carried across ISPF sessions. A status of *VERIFY, *INSTALL, or *EDIT also appears when these actions have occurred during the edit session of this Resource Update List.

LINES
Shows the number of entries in the Resource Update List.

CREATED
The date (yyyy/mm/dd) on which this Resource Update List was created.

UPDATED
The timestamp when this Resource Update List was last updated.

Upd-ID
The user ID which last updated the Resource Update List.
You can scroll right using the ISPF RIGHT command or by pressing PF11. An example of the second screen is shown in Figure 74.

![Figure 74. Screen 2 of sample list of data set members in Resource Update List](image)

The second screen shows the following fields:

**INSTALLED**
- The timestamp showing when this Resource Update List was last installed.

**INST-ID**
- The user ID which last installed this Resource Update List.

The third screen can be displayed using the RIGHT command or by pressing PF11 a second time. An example of the third screen is shown in Figure 75 on page 102.
The third screen shows the following field:

**COMMENT**

- A comment field which can be edited using a Resource Update List editor.

## Sorting the list

The Update List Selection panel can be sorted on any column. The default is to sort by the Name field. To sort on any other column, simply enter SORT and the column name on the command line. For example, to sort by creation date, enter `SORT CREATED`.

You can scroll through the resource list names using the typical UP and DOWN commands or PF keys. You can also use the L (Locate) command to automatically scroll to a specific entry. The Locate command works based on the current SORT column, or the Name column if no sort has been requested. In the default sort order, the `L MAA` command would scroll down to the first entry beginning with MAA. To find the first Resource Update List created in 2005, enter `SORT CREATED` and then `L 2005`.

## Additional command line functions

The D and R line commands allow you to delete or rename, respectively, Resource Update List names.

The S primary command allows you to create a new Resource Update List which has a new member name. For example, on the command line you could enter `S NEWLIST`.

You can also use `S` in the CMD column to edit an existing update list. Simply enter `S` next to the name you choose. IMS HP Sysgen Tools then displays the existing entries defined in that Resource Update List.
You can also verify or install an existing Resource Update List from the Update List Selection panel. Use the V or I line commands to verify or install a single Resource Update List.

Performing an edit

When an existing Resource Update List is selected, the entries in the list are displayed, as shown in the example in Figure 76. This example contains three entries; in this case, they are all ADDs for databases. The database names to be added are AAA, ZZZ, and MMM. The last update information is also shown for each entry in the Resource Update List, showing the last user ID which updated the update list entry as well as the timestamp the entry was updated.

The following primary commands are available while you are editing a Resource Update List:

**Ins** Inserts a new entry in the Resource Update List. You can abbreviate this command by entering an I on the command line or you can use the I line command.

**COPY** Copies the contents of another Resource Update List into this Resource Update List. You can specify a member name on the command (for example, COPY LIST1), or you can enter the COPY command without any other operands to display the names of the update lists in the IOHPDS data set that you are currently editing.

**CAN** Cancels any changes that you have made to this Resource Update List during this edit session.

The following line commands are available from the Update List Entries panel:

**D** Deletes a Resource Update List entry.

**I** Inserts a new entry in the Resource Update List. This command can be used as either a line command or as a primary command on the command line.

**R** Replicates and existing entry and displays the attributes of the new entry so that changes can be made.

**S** Allows an entry to be edited.

```
EDIT IMS HP Sysgen Tools - Update List DBDADD Row 1 to 3 of 3
Command ===> ____________________________ Scroll ===> CSR
Target ===> IMS9 (IMSID or group name)
Comment ===> TEST DBD ADD

Primary Commands: Line Commands:
Ins Insert an Entry D Delete an Entry S Edit an Entry
COPY Copy an Update List I Insert an Entry R Replicate an Entry
CAN Cancel (do not save)

CMD  Function  Resource  Name  Updated       ID
---  -------   -------   --------       ---
ADD  DATABASE  AAA  2007/05/06 14:36:23  P390M
ADD  DATABASE  ZZZ  2007/05/06 14:36:30  P390M
ADD  DATABASE  MMM  2007/05/06 14:36:42  P390M

**************************************** Bottom of data ****************************************
```

Figure 76. Edit command for data set members in Resource Update List
Inserting a new entry

When you insert a new entry in a Resource Update List, you must select a resource type and action. Figure 77 shows an example of the panel for selecting the resource type and action.

To add a new entry to the Resource Update List, you must select the resource type, the action to perform (depending on the resource type chosen), and optionally a resource name.

First you must select the resource type to be acted upon. There are several types of resources from which to choose. You can select an IMS sysgen resource: database, program, transaction, or route code. For an IMS9.1 or earlier IMS environment, there are also several IMS security gen resources, including AGN, TCOMMAND, and terminal security. There is also an option to include an IMS command as part of the installation of a Resource Update List. Finally, there are two additional resource types which allow changes to non-sysgen resources. You can reload a DEDB randomizer load module or reload an ACBLIB member (PSB or DBD).

If you select an IMS Sysgen resource (DATABASE, PROGRAM, TRAN, or RTCODE), you must select the action to perform. You can select UPDATE to modify an existing IMS definition, ADD to add a new IMS definition, DELETE to delete an existing definition, or RENAME to change the name of an existing definition. Optionally, you can specify a resource name. Depending on the action that you select, the name is used as shown below:

Optionally, you can specify a resource name. Depending on the action that you select, the name is used as shown below:
Update

The name of the resource to be updated. You can also enter this name while you are editing the attribute values for the resource.

Add

The name of an existing resource whose definition will be used to initially populate the attribute values of the resource to be added. If not specified on this panel, you can use the COPY command on the resource definition screen (for example, on the panel shown in Figure 78) to populate attribute values from an existing resource definition.

Delete

The name of the resource to be deleted. You can also enter this name while you are editing the attribute values for the resource.

Rename

The name of the existing resource that is to be renamed. You can also enter the resource name while you are editing the attribute values for the resource.

Specifying attribute values

Attribute value specifications for an IMS resource are specified when a Resource Update List entry is edited. Figure 78 shows a typical panel for specifying how a resource definition would be changed. The example shows a Resource Update List entry that changes the definition of program DFSSAM01 from schedule type serial to schedule type parallel. The Current column shows the current definition of the program, while the New column shows what the value will be after the Resource Update List is installed. The Parameter column shows the IMS sysgen macro keyword parameter, documented in the IMS Installation Volume 2 for your installed version of IMS, which provides a reference for further information about the parameter. Additional information about each parameter is also available by placing the cursor in the New column for a parameter, and pressing the Help key (usually, PF1).

Note that, depending on your installation options (IMS HP Sysgen Tools Profile and User definitions), some resource attributes may be protected. If your administrator has chosen to restrict access to some resource attributes, those attribute fields will show on the panel as display only fields which means the fields cannot be updated. In addition, the value that is displayed in the New column is the default value specified for your user profile and cannot be changed.

EDIT IMS HP Sysgen Tools - Update Program Definition

Command ===>

Primary Commands:
COPY Copy Attributes from an Existing Program Definition

<table>
<thead>
<tr>
<th>Parameter</th>
<th>New</th>
<th>Current</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSB Name</td>
<td>DFSSAM01</td>
<td>DFSSAM01</td>
<td>PSB (or GPSB) Name</td>
</tr>
<tr>
<td>RESIDENT</td>
<td>NO</td>
<td>NO</td>
<td>PSB to remain resident in storage (YES or NO)</td>
</tr>
<tr>
<td>DQPT</td>
<td>NO</td>
<td>NO</td>
<td>Reload PSB for each execution (YES or NO)</td>
</tr>
<tr>
<td>GPSB</td>
<td>NO</td>
<td>NO</td>
<td>Generic PSB (YES or NO)</td>
</tr>
<tr>
<td>FPATH</td>
<td>NO</td>
<td>NO</td>
<td>Fast Path Exclusive Program (YES or NO)</td>
</tr>
<tr>
<td>LANG</td>
<td></td>
<td></td>
<td>GPSB Language (ASSEM, COBOL, PASCAL, PL/I, JAVA)</td>
</tr>
<tr>
<td>PMTYPE</td>
<td>BATCH</td>
<td>BATCH</td>
<td>Program Type (BATCH or TP)</td>
</tr>
<tr>
<td>SCNTYPE</td>
<td>PARALLEL</td>
<td>SERIAL</td>
<td>Schedule Type (SERIAL or PARALLEL)</td>
</tr>
</tbody>
</table>

Figure 78. Edit a Resource Update List panel
Each time a Resource List Entry is edited, the current definitions are retrieved from the IMS control region. Thus, the current definitions are always the actual values in use by IMS.

You can use the New column to specify values that determine how the resource definition will be changed. The values are checked to verify that they are valid IMS values, but they are not validated for any specific IMS control region environment. For example, the value for the FPATH parameter could be changed to YES, which would be accepted as valid input. But, when the Resource Update List is verified, the entry would be rejected if Fast Path is not defined in that IMS control region. Similarly, JAVA could be specified for the LANG parameter, but if the Resource Update List is checked against an IMS Version 7 subsystem, the value will be rejected as invalid for that IMS release.

In summary, values entered on the panel are only checked for syntax validity when editing the list entry. Validation for a specific IMS subsystem environment is not done until the Resource Update List is verified.

Editing a database entry

Each database list entry panel shows the current and/or new values for each parameter associated with an IMS sysgen database definition.

Add Database Definition panel

About this task

When an Add Database Definition is initially requested, the panel in Figure 79 is displayed.

Enter a value for the database name, and verify that the other parameter values are correct for this definition, or update the values as appropriate.

- Use the COPY command to change parameter values to match the values of an existing database definition.
- Press the Enter key to validate and refresh values on the panel. Press the End key (usually, PF3) to save the list entry and return to the display of all entries in the Resource Update List.
- Enter the CANCEL or CAN command to return to the display of all entries in the Resource Update List without saving the entry being viewed.

![Figure 79. Add Database Definition panel](image)

The Add Database Definition panel uses the primary command, COPY. To update parameter values to those used by an existing resource of the same type, enter
COPY on the command line, followed by the name of an existing resource. For example, to update parameter values to those currently in use by the DI21PART database, you would enter:

COPY DI21PART

**Update Database Definition panel**

**About this task**

When an Update Database Definition is initially requested, the panel in Figure 80 is displayed. Enter a database name to populate the current values column and to set the Update values column to the current values. If the database name is later changed, the Current and Update values will both be reset to the current values of the parameters.

After a valid database name is entered, the values in the Current and Update columns are displayed as shown in Figure 81. After the name is entered, you can use the Copy command to change values in the Update column to match values in use by another existing database. You should then update any values that are to be changed and save the list entry by pressing the End key (usually, PF3).

The Update Database Definition panel uses the primary command, **COPY**. To update parameter values to those used by an existing resource of the same type, enter **COPY** on the command line, followed by the name of an existing resource. For example, to update parameter values to those currently in use by the DI21PART database, you would enter:

COPY DI21PART
Delete Database Definition panel

About this task

The initial Delete Database Definition panel allows you to enter a database name that is to be deleted. An example of the panel is shown in [Figure 82](image)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>DBD name</td>
<td></td>
</tr>
<tr>
<td>RESIDENT</td>
<td>DMB is retained in storage</td>
<td></td>
</tr>
<tr>
<td>Access</td>
<td>Subsystem access intent</td>
<td></td>
</tr>
</tbody>
</table>

Figure 82. Delete Database Definition panel (1 of 2)

To populate current system definition parameter values for the database, you would enter a database name. With the exception of the database name, you cannot change these values. If the database name is changed, the values are updated on the panel when the Enter key is pressed. [Figure 83](image) is an example of a populated panel.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>DI21PART</td>
<td>DBD name</td>
</tr>
<tr>
<td>RESIDENT</td>
<td>NO</td>
<td>DMB is retained in storage</td>
</tr>
<tr>
<td>Access</td>
<td>UP</td>
<td>Subsystem access intent</td>
</tr>
</tbody>
</table>

Figure 83. Delete Database Definition panel (2 of 2)

Rename Database Definition panel

About this task

The initial Rename Database Definition panel (if you do not include a database name on the panel shown in [Figure 77](image) on page 104) allows you to enter the name of an existing database that is to be renamed. An example of the panel is shown in [Figure 84](image) on page 109.
To populate current system definition parameter values for the database, enter the name of the database to be renamed. When the database name is entered or changed, values in the Current column are updated when the Enter key is pressed. Figure 85 is an example of a populated panel.

After the current database attributes are populated, you must enter the new name for the specified database, and you can enter changes for the other attribute values, such as RESIDENT or ACCESS. After the new name and any attribute value changes have been entered, pressing the End key (usually PF3), saves the information and returns you to the list of Resource Update List entries.

**Special considerations for databases**

**Procedure**

1. The RESIDENT parameter can be changed, and a database with RESIDENT attribute can be added, but the DMB will not be loaded to the resident DMB pool until IMS is shut down and restarted. This is because resident databases have DMBs loaded only at IMS initialization time and cannot be added to the resident DMB pool while IMS is running.

2. The ACCESS= parameter can be changed for an existing database, but the updated value will not take effect until the next IMS cold start. HP Sysgen does not stop the database and issue the `/START DB` command with the ACCESS= parameter to cause the access intent to be changed. The user must issue IMS commands `/STO DB and STA DBACCESS=xx` to cause the current access intent to be changed.

**Updating program entries**

Each program list entry panel shows the current and/or new values for each parameter associated with an IMS sysgen program definition (APPLCTN macro).
Add Program Definition panel

About this task

When a Add Program Definition is initially requested, the panel in Figure 86 is displayed.

Enter a value for the program name, and verify that the other parameter values are correct for this definition, or update the values as appropriate.

- Use the COPY command to change parameter values to match the values of an existing program definition.
- Press the Enter key to validate and refresh values on the panel. Press the End key (usually, PF3) to save the list entry and return to the display of all entries in the Resource Update List.
- Enter the CANCEL or CANCEL command to return to the display of all entries in the Resource Update List without saving the entry being viewed.

The Add Program Definition panel uses the primary command, COPY. To update parameter values to those used by an existing program, enter COPY on the command line, followed by the name of an existing program. For example, to update parameter values to those currently in use by the DFSSAM02 program, you would enter:

COPY DFSSAM02

Update Program Definition panel

About this task

When a Update Program Definition is initially requested, the panel in Figure 87 on page 111 is displayed. Enter a program name to populate the Current values column and to set the Update values column to the current values. If the program name is later changed, the Current and Update values will both be reset to the current values of the parameters.
After a valid program name is entered, the values in the Current and Update columns are displayed as shown in Figure 88. After entering the name, you can use the COPY command to change values in the Update column to match values in use by another existing program. You should then update any values that are to be changed and save the list entry by pressing the End key (usually, PF3).

The Update Program Definition panel uses the primary command, COPY. To update parameter values to those used by an existing program, enter COPY on the command line, followed by the name of an existing program. For example, to update parameter values to those currently in use by the DFSSAM02 program, you would enter:

COPY DFSSAM02

**Delete Program Definition panel**

**About this task**

The initial Delete Program Definition panel allows you to enter a program name that is to be deleted. An example of the panel is shown in Figure 89 on page 112.
To populate current system definition parameter values for the program, you would enter a program name. With the exception of the program name, you cannot change these values. If the program name is changed, the values are updated on the panel when the Enter key is pressed. Figure 90 is an example of a populated panel.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSB NAME</td>
<td>PSB (or GPSB) Name</td>
<td></td>
</tr>
<tr>
<td>RESIDENT</td>
<td>PSB to remain resident in storage</td>
<td></td>
</tr>
<tr>
<td>DOPT</td>
<td>Reload PSB for each execution</td>
<td></td>
</tr>
<tr>
<td>GPSB</td>
<td>Generic PSB</td>
<td></td>
</tr>
<tr>
<td>FPATH</td>
<td>Fast Path</td>
<td></td>
</tr>
<tr>
<td>LANG</td>
<td>GPSB Language</td>
<td></td>
</tr>
<tr>
<td>PGMTYPE</td>
<td>Program Type</td>
<td></td>
</tr>
<tr>
<td>SCHEDTYPE</td>
<td>Schedule Type</td>
<td></td>
</tr>
</tbody>
</table>

Figure 89. Delete Program Definition panel (1 of 2)

To populate current system definition parameter values for the program, you would enter a program name. With the exception of the program name, you cannot change these values. If the program name is changed, the values are updated on the panel when the Enter key is pressed. Figure 90 is an example of a populated panel.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSB NAME</td>
<td>DFSSAM02</td>
<td>PSB (or GPSB) Name</td>
</tr>
<tr>
<td>RESIDENT</td>
<td>NO</td>
<td>PSB to remain resident in storage</td>
</tr>
<tr>
<td>DOPT</td>
<td>NO</td>
<td>Reload PSB for each execution</td>
</tr>
<tr>
<td>GPSB</td>
<td>NO</td>
<td>Generic PSB</td>
</tr>
<tr>
<td>FPATH</td>
<td>NO</td>
<td>Fast Path</td>
</tr>
<tr>
<td>LANG</td>
<td>GPSB Language</td>
<td></td>
</tr>
<tr>
<td>PGMTYPE</td>
<td>TP</td>
<td>Program Type</td>
</tr>
<tr>
<td>SCHEDTYPE</td>
<td>PARALLEL</td>
<td>Schedule Type</td>
</tr>
</tbody>
</table>

Figure 90. Delete Program Definition panel (2 of 2)

**Rename Program Definition panel**

**About this task**

The initial program rename panel (if you do not include a program name on the panel shown in Figure 77 on page 104) allows you to enter the name of an existing program which is to be renamed. An example of this panel is shown in Figure 91 on page 113.
To populate current system definition parameter values for the program, enter the name of the program to be renamed. When the program name is entered or changed, values in the Current column are updated when the Enter key is pressed. Figure 92 is an example of a populated panel.

After the program attributes are populated, you must enter the new name for the specified program, and you can enter changes for other attribute values, such as RESIDENT or DOPT. After the new name and any attribute value changes have been entered, pressing the End Key (usually PF3) saves the information and returns you the list of Resource Update List entries.

Note that when you rename a program definition, all transaction and route code definitions associated with the old program name are changed so that they are associated with the new program name when the Resource Update List is installed.

**Special considerations for programs**

**Procedure**

1. The RESIDENT parameter can be changed, and a program with RESIDENT attribute can be added, but the PSB will not be loaded to the resident PSB pool
until IMS is shut down and restarted. This is because resident programs have
PSBs loaded only at IMS initialization time and cannot be added to the resident
PSB pool while IMS is running.

2. Changing the value of the GPSB attribute also requires than an online change
for the IMS ACBLIB be performed to implement the change.

3. The SYSID parameter permitted in the IMS sysgen macro definition is not
permitted in HP Sysgen. A remote PSB definition does not generate any control
blocks; it is used only to provide default values for the SYSID parameter on all
transaction codes associated with the program. HP Sysgen requires that all
SYSID values be explicitly defined for each transaction.

**Updating transaction code entries**

Each transaction list entry panel shows the current and/or new values for each
parameter associated with an IMS sysgen transaction definition (TRANSACT
macro).

**Add a Transaction Definition panel**

**About this task**

*When a Add Transaction Definition is initially requested, the panel in Figure 93 on
page 115 is displayed.*

Enter a value for the transaction code, and verify that the other parameter values
are correct for this definition, or update the values as appropriate.

- Use the **COPY** command to change parameter values to match the values of an
  existing transaction definition.

- Press the Enter key to validate and refresh values on the panel. Press the End
  key (usually, PF3) to save the list entry and return to the display of all entries in
  the Resource Update List.

- Enter the **CANCEL** or **CAN** command to return to the display of all entries in the
  Resource Update List without saving the entry being viewed.
The Add a Transaction Definition panel uses the primary command, COPY. To update parameter values to those used by an existing transaction, enter COPY on the command line, followed by the name of an existing transaction. For example, to update parameter values to those currently in use by transaction PART, you would enter:

COPY PART

Update a Transaction Definition panel

About this task

When a Update a Transaction Definition is initially requested, the panel in Figure 94 on page 116 is displayed. Enter a transaction code to populate the Current values column and to set the Update values column to the current values. If the transaction code is later changed, the Current and Update values will both be reset to the current values of the parameters.
After a valid transaction code is entered, the values in the Current and Update columns are displayed as shown in Figure 95 on page 117. After entering the transaction code, you can use the COPY command to change values in the Update column to match values in use by another existing transaction. You should then update any values that are to be changed and save the list entry by pressing the End key (usually, PF3).
The Update a Transaction Definition panel uses the primary command, **COPY**. To update parameter values to those used by an existing transaction, enter **COPY** on the command line, followed by the name of an existing transaction. For example, to update parameter values to those currently in use by transaction PART, you would enter:

COPY PART

### Delete Transaction Definition panel

#### About this task

The initial Delete Transaction Definition panel allows you to enter a transaction code that is to be deleted. An example of the panel is shown in Figure 96 on page 118.
To populate current system definition parameter values for the transaction, you would enter a transaction code. With the exception of the transaction code, you cannot change these values. If the transaction code is changed, the values are updated on the panel when the Enter key is pressed. Figure 97 on page 119 is an example of a populated panel.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tran Code</td>
<td>________</td>
<td>Transaction Code</td>
</tr>
<tr>
<td>PSB Name</td>
<td>Associated PSB Name</td>
<td></td>
</tr>
<tr>
<td>DCLWA</td>
<td>DC Log Write Ahead</td>
<td></td>
</tr>
<tr>
<td>Edit Case</td>
<td>Upper Case or Upper/Lower Case</td>
<td></td>
</tr>
<tr>
<td>EDIT Name</td>
<td>Transaction Edit Routine Module Name</td>
<td></td>
</tr>
<tr>
<td>FPATH</td>
<td>Fast Path Specification</td>
<td></td>
</tr>
<tr>
<td>INQUIRY</td>
<td>Inquiry Mode</td>
<td></td>
</tr>
<tr>
<td>RECOVER</td>
<td>Recoverable Transaction</td>
<td></td>
</tr>
<tr>
<td>MAXRGN</td>
<td>Maximum regions</td>
<td></td>
</tr>
<tr>
<td>MODE</td>
<td>Mode</td>
<td></td>
</tr>
<tr>
<td>MSGTYPE</td>
<td>Segments</td>
<td></td>
</tr>
<tr>
<td>RESPONSE</td>
<td>Response mode</td>
<td></td>
</tr>
<tr>
<td>CLASS</td>
<td>Transaction Class</td>
<td></td>
</tr>
<tr>
<td>PARLIM</td>
<td>Parallel Limit Count</td>
<td></td>
</tr>
<tr>
<td>COUNT</td>
<td>PROCLIM Count</td>
<td></td>
</tr>
<tr>
<td>SECONDS</td>
<td>PROCLIM Time</td>
<td></td>
</tr>
<tr>
<td>PRIORITY1</td>
<td>Normal Priority</td>
<td></td>
</tr>
<tr>
<td>PRIORITY2</td>
<td>Limit Priority</td>
<td></td>
</tr>
<tr>
<td>PRIORITY3</td>
<td>Limit Count</td>
<td></td>
</tr>
<tr>
<td>ROUTING</td>
<td>Routing</td>
<td></td>
</tr>
<tr>
<td>SCHD</td>
<td>Scheduling Option</td>
<td></td>
</tr>
<tr>
<td>SEGNO</td>
<td>Number of Output Segments</td>
<td></td>
</tr>
<tr>
<td>SEGSIZE</td>
<td>Size of Output Segments</td>
<td></td>
</tr>
<tr>
<td>SERIAL</td>
<td>Serial Processing of Input Messages</td>
<td></td>
</tr>
<tr>
<td>SPA SIZE</td>
<td>SPA Size</td>
<td></td>
</tr>
<tr>
<td>SPA TYPE</td>
<td>SPA Truncation Option (blank, RTRUNC, STRUNC)</td>
<td></td>
</tr>
<tr>
<td>RMT SYSID</td>
<td>Remote SYSID</td>
<td></td>
</tr>
<tr>
<td>LCL SYSID</td>
<td>Local SYSID</td>
<td></td>
</tr>
<tr>
<td>WFI</td>
<td>Wait for Input</td>
<td></td>
</tr>
<tr>
<td>AOI</td>
<td>Automated Operator (NO, YES, TRAN, CMD)</td>
<td></td>
</tr>
</tbody>
</table>

Figure 96. Delete transaction definition panel (1 of 2)
rename transaction definition panel

about this task

the initial rename transaction definition panel (if you do not include a
transaction name on the panel shown in figure 77 on page 104) allows you to enter
the name of an existing transaction which is to be renamed. an example of the
panel is shown in figure 98 on page 120
To populate current system definition parameter values for the transaction, enter the name of the transaction code which is to be renamed. When the transaction name is entered or changed and the Enter key is pressed, the values in the Current column are updated. [Figure 99 on page 121] is an example of a populated panel.
After the current transaction attributes are populated, you must enter the new name for the specified transaction, and you can enter changes for the other attribute values, such as PSB Name or DCLWA. After the new name and any attribute value changes have been entered, pressing the End key (usually, PF3) saves the information and returns you to the list of Resource Update List entries.

**Special considerations for transactions**

**About this task**

None.

**Updating route code entries**

Each program list entry panel shows the current and/or new values for each parameter associated with an IMS sysgen program definition (APPLCTN macro).

**Add Route Code Definition panel**

**About this task**

When a Add Route Code Definition is initially requested, the panel in Figure 100 on page 122 is displayed.
Enter a value for the route code, and verify that the other parameter values are correct for this definition, or update the values as appropriate.

- Use the COPY command to change parameter values to match the values of an existing route code definition.
- Press the Enter key to validate and refresh values on the panel. Press the End key (usually, PF3) to save the list entry and return to the display of all entries in the Resource Update List.
- Enter the CANCEL or CAN command to return to the display of all entries in the Resource Update List without saving the entry being viewed.

The Add Route Code Definition panel uses the primary command, COPY. To update parameter values to those used by an existing route code, enter COPY on the command line, followed by the name of an existing route code. For example, to update parameter values to those currently in use by the DFSIVD route code, you would enter:

COPY DFSIVD

**Update Route Code Definition panel**

**About this task**

When a Update Route Code Definition is initially requested, the panel in [Figure 101](page 123) is displayed. Enter a route code to populate the Current values column and to set the Update values column to the current values. If the route code is later changed, the Current and Update values will both be reset to the current values of the parameters.

After a valid route code is entered, the values in the Current and Update columns are displayed as shown in [Figure 102 on page 123](page 123). After entering the route code, you can use the COPY command to change values in the Update column to match
values in use by another existing route code. You should then update any values that are to be changed and save the list entry by pressing the End key (usually, PF3).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>New</th>
<th>Current</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROUTCDE</td>
<td>IVTFD</td>
<td>IVTFD</td>
<td>Route Code Name</td>
</tr>
<tr>
<td>PSB Name</td>
<td>DFSIVP4</td>
<td>DFSIVP4</td>
<td>Name of PSB associated with this Route Code</td>
</tr>
<tr>
<td>Inquiry</td>
<td>NO</td>
<td>NO</td>
<td>Inquiry Mode (NO or YES)</td>
</tr>
</tbody>
</table>

Figure 102. Update route code definition panel (2 of 2)

The Update Route Code Definition panel uses the primary command, COPY. To update parameter values to those used by an existing route code, enter COPY on the command line, followed by the name of an existing route code. For example, to update parameter values to those currently in use by the DFSIVD route code, you would enter:

COPY DFSIVD

**Delete Route Code Definition panel**

**About this task**

The initial Delete Route Code Definition panel allows you to enter a route code that is to be deleted. An example of the panel is shown in Figure 103.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROUTCDE</td>
<td></td>
<td>Route Code Name</td>
</tr>
<tr>
<td>PSB Name</td>
<td></td>
<td>Name of PSB associated with this Route Code</td>
</tr>
<tr>
<td>Inquiry</td>
<td></td>
<td>Inquiry Mode (NO or YES)</td>
</tr>
</tbody>
</table>

Figure 103. Delete route code definition panel

To populate current system definition parameter values for the route code, you would enter a valid route code. With the exception of the route code, you cannot change these values. If the route code is changed, the values are updated on the panel when the Enter key is pressed. Figure 104 on page 124 is an example of a populated panel.
About this task

The initial Rename Route Code Definition panel (if you do not include a route code name on the panel shown in Figure 77 on page 104) allows you to enter the name of an existing route code which is to be renamed. An example of the panel is shown in Figure 105.

To populate current system definition parameter values for this route code, enter the name of the route code which is to be renamed. When the route code name is entered or changed, the values in the Current column are updated. Figure 106 is an example of a populated panel.

After the current route code attributes are populated, you must enter the new name for the specified route code, and you can enter changes for the other...
attribute values, such as PSB Name or Inquiry. After the new name and any attribute value changes have been entered, pressing the End key (usually, PF3) saves the information and returns you to the list of Resource Update List entries.

**Special considerations for route codes**

**About this task**

None.

### Updating an AGN definition

When inserting a new Resource Update List entry, selecting resource type 5 allows you to make a change to an IMS Application Group Name (AGN) definition. AGN definitions are used to protect IMS resources using your z/OS security subsystem. You can restrict which user IDs are allowed to access specific program names, transaction codes, and logical terminal (LTERM) names.

AGN definitions allow you to group a set of IMS resource names into a single name for your security subsystem. These definitions are defined in the IMS security gen source, and are placed in the IMS MATRIX data set.

IMS HP Sysgen Tools allows you to update an AGN definition in order to add or delete a specific IMS resource name from the definition. To update an AGN definition, you select resource type 5 (AGN) from the Edit Resource Update List panel, as shown in Figure 77 on page 104. After selecting Option 5, you specify the AGN name, resource type, resource name, and action to be performed on the screen shown in Figure 107.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
<td>AGN name</td>
</tr>
<tr>
<td>Action</td>
<td></td>
<td>A to ADD the resource name, D to DELETE the resource name</td>
</tr>
<tr>
<td>Type</td>
<td></td>
<td>Resource type (T=TRAN, P=PROGRAM, or L=LTERM)</td>
</tr>
<tr>
<td>Resource</td>
<td></td>
<td>Resource name</td>
</tr>
</tbody>
</table>

*Figure 107. Update AGN definition panel*

On this panel, specify the following fields:

**Name**

The name of an existing AGN, as defined in your IMS security gen source. The name is verified for the target IMS subsystem when you enter the value.

**Action**

Enter either A to add a new resource name to this AGN, or D to delete an existing resource that is defined in the AGN.

**Type**

The resource type. Enter T for a transaction, P for a program, or L for an LTERM name.

**Resource**

The name of the transaction, program, or LTERM name to be added or deleted from the AGN. The resource name is checked when you press the Enter key. If you requested a DELETE, the resource name must be defined in...
the AGN. If you requested an ADD, the resource name must not already be
defined in the AGN. If the existing definition of the AGN specifies ALL for
this type of resource (for example, AGLTERM ALL), you cannot add or
delete a specific entry from the list. When you press Enter, the AGN
definition is checked to ensure that ALL was not specified.

Updating transaction command SMU security

About this task

When inserting a new Resource Update List entry, selecting resource type 6 allows
you to make a change to the IMS command security defined for a transaction. This
is the IMS type 1 command security which provides access to the IMS CMD and
GCMG calls, as defined in the IMS security gen source using the TCOMMAND
and CTRANS statements.

This transaction command security should not be confused with IMS security for
ICMD and RCMD calls, which is based on z/OS security subsystem, or the AOI=
parameter that can be specified on the TRANSACT macro in IMS version 9.

IMS HP Sysgen Tools allows you to update IMS SMU TCOMMAND security
definitions. To update a TCOMMAND definition, select resource type 6
(TCOMMAND) from the Edit Resource Update List panel, as shown in Figure 77
on page 104. After selecting option 6, specify the transaction code to be updated.
The current IMS TCOMMAND security specifications are displayed, as shown in
Figure 108 on page 127. This panel contains the same commands found on the Edit
Resource Update List panel plus additional commands. Use the ISPF Up and
Down commands (typically PF Keys 7 and 8) to scroll through all the IMS
commands.

All the listed IMS commands may not be available for a specific release of IMS. For
example, the /DIAGNOSE command was introduced in IMS version 8. Any value
you enter for the /DIAGNOSE command for an IMS system running a version of
IMS below version 8.1 will be ignored. Notes to the right of a command indicate
that it is not available for specific releases of IMS.

The panel also shows which commands are authorized for the specified transaction
code. A slash is displayed in the “Current” column for every authorized
transaction command. You can update the “New” column with a non-blank value
to authorize the transaction for a command. To remove security for a command,
simply change the slash in the “New” column to a blank.

You can copy the TCOMMAND security specification of an existing transaction
code using the COPY command. Just enter the COPY command, followed by the
transaction code from which security is to be copied on the Command line. The
“New” column is updated to reflect the authorization provided for the transaction
code specified in the COPY command.
Updating IMS terminal SMU security

About this task

When inserting a new Resource Update List entry, selecting resource type 7 allows you to make a change to IMS terminal security. IMS terminal security is specified in your IMS security gen source, and provides the ability to restrict access to IMS transactions and commands to a limited number of static IMS LTERM names. Note that this does not affect any dynamic ETO terminals, which are typically secured using your z/OS security subsystem.

Terminal security defines which IMS commands and transactions are protected. If a transaction or command is not currently protected, allowing one specific LTERM to access the resource causes all other LTERMs to be disallowed from the resource. For this reason, IMS HP Sysgen Tools does not allow you to define security for a transaction code or command that is not currently protected. To define security for a currently unprotected transaction or command, or to remove all security from a transaction or command, you should update your IMS security gen source, perform a security gen, and implement the updated security using IMS online change.

IMS HP Sysgen Tools allows you to update IMS terminal security definitions to allow or disallow access to a resource from a specified LTERM name. To update IMS terminal security, select resource type 7 (TERMSEC) from the edit Resource Update List panel, as shown in figure 49. After selecting option 7, specify the LTERM name, action, and resource name for which security will be updated. The IMS terminal security panel is shown in Figure 109 on page 128.
Fields to be completed are described below:

**Name**  
The name of an existing static LTERM name, as defined in your IMS sysgen source. The name is verified for the target IMS subsystem when you enter the value.

**Action**  
Enter either **A** to allow access or **D** to disallow access for the specified LTERM name.

**Resource**  
The name of the transaction or command for which access is to be allowed or disallowed. The transaction code or command name is checked to ensure it is valid in the target IMS system. For an IMS command, specify a slash and the first three letters of the command; for example, */DIS*.

### Issuing an IMS command in a Resource Update List

#### About this task

When inserting a new Resource Update List entry, selecting resource type 8 allows you to process an IMS command as part of the installation of the Resource Update List.

The order of entries in a Resource Update List does not define the order used when installing the Resource Update List. Instead, IMS command entries allow you to specify whether to run the IMS command before or after IMS HP Sysgen Tools installs other changes defined by Resource Update List entries.

If IMS commands are to be run before other resource updates, they are run immediately after the Resource Update List is verified. If they are to be run after other resource updates, they are run after changes in all other types of update list entries have been installed. This would happen after all IMS resource updates and security updates, as well as after any IMS ACBLIB reload requests.

If installation of a Resource Update List fails during resource updates, online changes, or reloads, IMS commands specified to run after resource updates are still processed after the failure occurs. If a failure occurs before any “before” IMS commands are issued, none of the “after” IMS commands are processed. The intent is to either run none of the IMS commands or all the IMS commands.

The panel in [Figure 110 on page 129](#) shows the fields you use to insert a new Resource Update List entry.
Fields to be completed are described below:

**Sequence**
Defines whether the command will be processed BEFORE other resource updates, or AFTER other resource updates.

**Command**
The IMS commands to be processed. Only type 1 commands are supported. The command must start with a slash (/).

### Reloading a DEDB randomizer

#### About this task

IMS HP Sysgen Tools provides an automated way to reload a Fast Path Data Entry Database (DEDB) randomizer module. IMS provides the capability to reload a DEDB randomizer; specifically, after all databases using the randomizer are /DBRed, IMS recognizes that the randomizer is no longer in use and deletes it from memory. Subsequently, when one of the databases using the randomizer is started, IMS loads the new version of the randomizer module from the IMS control region STEPLIB.

IMS HP Sysgen Tools automates the process of performing /DBR of all databases that use the specified randomizer name and then automates the startup of the databases as well as any areas associated with the databases that were available before the /DBR was initiated.

In order to reload a DEDB randomizer module, you should first review which databases will be impacted when the randomizer is reloaded. You can use IMS HP Sysgen Tools Option 1 to view a list of all DEDB randomizer module names, and which databases use each randomizer name. When the Resource Update List is installed, all the listed databases are taken offline, which makes them unavailable to any IMS application programs. You should carefully consider the impact before performing the install of a Resource Update List that includes a reload DEDB randomizer entry.

Remember that the updated DEDB randomizer load module must be copied into the IMS control region STEPLIB before the Resource Update List is installed. Also, note that IMS HP Sysgen Tools takes no action until the Resource Update List is installed.

To create a Resource Update List entry to perform a DEDB randomizer reload:

1. Insert a new entry into a Resource Update List.
2. Select resource type 9 on the Edit Resource Update List panel shown in Figure 77 on page 104.
3. Specify the randomizer load module name in the name field.
4. Enter the randomizer name on the panel that appears next (the Reload DEDB
Randomizer entry panel shown in Figure 111.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>______</td>
<td>DEDB Randomizer load module name</td>
</tr>
</tbody>
</table>

*Figure 111. Reload DEDB Randomizer entry panel*

The name of the DEDB randomizer load module is required. If you specified this
name on the panel in Figure 77 on page 104, the name is automatically populated
to the Reload DEDB Randomizer panel.

**Reloading an ACBLIB member**

You can dynamically reload a specific ACBLIB member into the PSB or DMB pool
of the IMS control region, without the overhead of locating all changed ACBLIB
members and reloading them.

IMS HP Sysgen Tools provides two methods for reloading an ACBLIB member:
using HP Sysgen ACB reload or using IMS member level global online change.

- The HP Sysgen ACB reload method involves copying the ACBLIB member to
  the active ACBLIB, and might not require any changes to the IMS environment.
- The IMS ACB member level global online change method might require changes
to the IMS environment, but it also provides additional capabilities that HP
Sysgen ACB reload does not offer. For example, you can reload database
definitions (DBD) for Data Entry Databases (DEDB) and if a DBD is updated, all
PSBs that are affected by the DBD change can be automatically reloaded.

**Reloading an ACBLIB member using HP Sysgen ACB reload**

You can use HP Sysgen ACB reload to reload a single updated PSB or DBD.

**Before you begin**

See “Reloading an ACBLIB member” for more information about reloading a
specific ACBLIB member.

**About this task**

**Restriction:** Fast Path database DBDs cannot be reloaded.

All releases of IMS are supported by the HP Sysgen ACB reload method.

**Procedure**

To reload an ACBLIB member:
1. Request an ACB reload by adding an entry to a resource update list. Use option
A to insert a new resource update list entry, as shown in the following figure:
2. Create an entry in a resource update list. To use the HP Sysgen reload option, specify the **Process** field as 1 (HP Sysgen ACB Reload). The **PSB's** field must be specified as N, as HP Sysgen ACB reload does not support automatically reloading a PSB that is affected by a DBD change.

3. Copy the updated ACB member to the active ACBLIB, and install the resource update list to reload the ACBLIB member specified in the resource update list.

**Reloading an ACBLIB member using IMS member level global online change**

You can use IMS member level global online change to reload a single updated PSB or DBD.

**Before you begin**

See "Enabling the use of IMS ACB member level global online change" on page 53 for information about the prerequisites for the following procedure and "Reloading an ACBLIB member" on page 130 for more information about reloading a specific ACBLIB member.

**Procedure**

To reload an ACBLIB member:

1. Request an ACB reload by adding an entry to a resource update list. Use option **A** to insert a new resource update list entry, as shown in the following figure:
2. Create an entry in a resource update list to reload an ACB.
   a. Specify the Process field as 2 (IMS Member Level Global Online Change).
   b. Specify the PSB’s field as either Y or N if the target IMS system is at IMS version 12 or later. If the target system is IMS Version 11 or earlier, specify Y.

   The use of the PSB’s field only applies when the TYPE field specifies that a DBD is to be reloaded. This field is used to populate the NAMEONLY parameter of the INITIATE OLC PHASE(PREPARE)TYPE(ACBMBR) command. If it is specified as N, IMS tries to reload only the specified DBD, and does not reload any PSB that has access to the specified DBD. If Y is specified, IMS reloads the specified DBD and every PSB that has access to that database.

3. Copy the updated ACB member to the staging ACBLIB, and install the resource update list to reload the ACBLIB member specified in the resource update list.

   **Important:** IMS HP Sysgen Tools does not stop a DBD or PSB before it is reloaded. You must verify that the DBD or PSB is not in use at the time the reload is performed.

   If an error occurs when installing a resource update list entry with a IMS member level global online change request, the IMS return codes and reason codes, along with any text associated with the error, are returned to the user.

   For information about CSLOMCMD request return and reason codes, see IMS System Programming APIs. For return and reason codes associated with commands in messages IOH4725E through IOH4728E, see IMS Commands.
Chapter 6. Verifying a Resource Update List

During the process of creating a Resource Update List, IMS resource definition values are verified as valid, but the values are not verified as valid for any specific IMS subsystem. Thus, Resource Update Lists are not associated with any specific IMS subsystem and can be installed for different target IMS subsystems or groups.

The Verify option ensures that a Resource Update List will install successfully in one or more specific IMS subsystems. This verification can take place before you actually install the Resource Update List.

It is not required that a Resource Update List be verified. The install process performs a verification check prior to making any changes. The Verify option provides a means for users to know if the Resource Update List installation will be successful before actually doing the installation.

Topics:

- “Verification Methods”
- “Completed Verification” on page 136

Verification Methods

You can use any of the following three methods to verify a Resource Update List:

- Select option 3 (VERIFY) from the IMS HP Sysgen Tools Primary Options menu (Figure 20 on page 59).
  
  By using this method you can select multiple Resource Update Lists to verify in a single pass as though they were a single Resource Update List. This feature is useful if you need to verify that multiple Resource Update Lists be installed at the same time (perhaps by a batch job scheduled during a maintenance window).

- Use the Resource Update List edit selection panel (Figure 73 on page 100).
  
  Use the V line command on the Edit member selection list to verify a Resource Update List from the same panel where you can edit a Resource Update List. If you previously created a Resource Update List and want to verify that it can be installed, issue the V line command after you save the Resource Update List.

- Perform the verify function by using a batch job.
  
  Refer to “Using the batch update list utility” on page 151 for details about how to set up JCL and control cards to verify one or more Resource Update Lists.

To use option 3 on the IMS HP Sysgen Tools Primary Options menu to verify one or more Resource Update Lists, complete the following steps:

1. Select option 3 from the IMS HP Sysgen Tools Primary Options menu and press Enter.
  
  The Update List Selection panel (Figure 114 on page 134) is displayed.
Scroll right and left on the Update List selection panel using the **RIGHT** and **LEFT** commands or PF11 and PF10. Verify that panels 1, 2, and 3 have the same fields as edit screens 1, 2, and 3. Sample VERIFY panels 2 and 3 are shown in figures Figure 115 and Figure 116 on page 135 below.

Scroll right and left on the Update List selection panel using the **RIGHT** and **LEFT** commands or PF11 and PF10. Verify that panels 1, 2, and 3 have the same fields as edit screens 1, 2, and 3. Sample VERIFY panels 2 and 3 are shown in figures Figure 115 and Figure 116 on page 135 below.

---

**Figure 114. Sample panel for verifying Resource Update List (1 of 3)**

**Figure 115. Sample panel for verifying Resource Update List (2 of 3)**

**Figure 116. Sample panel for verifying Resource Update List (3 of 3)**
2. Use the S line command to select Resource Update Lists to verify. You can select up to 255 Resource Update Lists to verify simultaneously. Press Enter to initiate the verification process.

   The update list entries from the update lists are shown in Figure 117.

3. Validate that the correct Resource Update Lists are selected and specify the **TARGET** name (either IMSID or group name) for which the entries are to be verified.

4. Enter the GO primary command to initiate the verification process.

   If the verification process identifies any conflicts that would prevent the update list entries from being installed, messages are displayed that describe these conditions. Example errors are shown in Figure 118 on page 136.
Completed Verification

When a verification process is successful, the verify status (and the target that was used for the verify) are stored in the IOHPDS data set. The Status field is updated to reflect the last successful function that was performed on the member.

Figure 119 shows that Resource Update List ADDINV was successfully verified. The asterisk before the VERIFY status shows that the status of this update list was changed in this HP Sysgen ISPF session. Member CCFAOPGM also shows a VERIFY status without the asterisk, which means that it was not verified during this IMS HP Sysgen Tools ISPF session.
Chapter 7. Installing a Resource Update List

After you create and verify a Resource Update List, you can install it. When you install a Resource Update List, verification is performed as the first step of the installation process.

Topics:
- "Installation Methods"
- "Completed Installation" on page 140

Installation Methods

You can use any of the following three methods to install a Resource Update List:

- **Select option 4 (INSTALL) from the IMS HP Sysgen Tools Primary Options menu** (Figure 20 on page 59).
  By using this method you can select multiple Resource Update Lists to install in a single pass as though they were a single Resource Update List. This feature is useful if you need to install multiple Resource Update Lists at the same time. For example, for multiple application maintenance releases in a single maintenance window.

- **Use the Resource update list edit selection panel** (Figure 73 on page 100).
  Use the I line command on the Edit member selection list to install a Resource Update List from the same panel where you can edit a Resource Update List. If you previously created a Resource Update List and want to install it, issue the I line command after you save the Resource Update List.

- **Perform the installation by using a batch job.**
  Refer to "Using the batch update list utility" on page 151 for details about how to set up JCL and control cards to install one or more Resource Update Lists.

To use option 4 on the IMS HP Sysgen Tools Primary Options menu (Figure 20 on page 59) to install one or more Resource Update Lists, complete the following steps:

1. Select option 4 from the HP Sysgen Primary Options menu and press Enter.
   The Update List Selection panel (Figure 120 on page 138) is displayed.
Scroll right and left on the Update List Selection panel using the **RIGHT** and **LEFT** commands or PF11 and PF10. Install panels 1, 2, and 3 have the same fields as edit panels 1, 2, and 3. Sample Install panels 2 and 3 are shown in Figure 121 and Figure 122 on page 139.

---

**Figure 120. Initial panel for installing Resource Update List**

Scroll right and left on the Update List Selection panel using the **RIGHT** and **LEFT** commands or PF11 and PF10. Install panels 1, 2, and 3 have the same fields as edit panels 1, 2, and 3. Sample Install panels 2 and 3 are shown in Figure 121 and Figure 122 on page 139.

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**Figure 121. Sample Resource Update List install panel (1 of 2)**
2. Use the S line command to select Resource Update Lists to install. You can select up to 255 Resource Update Lists to install simultaneously. Press Enter to initiate the installation process.

The update list entries from the update lists are shown in Figure 123.

3. Validate that the correct Resource Update Lists are selected and specify the target name for which the entries are to be installed.

4. Enter the GO primary command to initiate the installation process.

If the installation process identifies any conflicts that would prevent the update list entries from being successfully installed, messages are displayed that describe these conditions. Example errors are shown in Figure 124 on page 140.
After an action has completed for a member, the Update List Selection panel is updated with the current status of a member. When the status of a member is updated, the Status field is updated. For example in Figure 125, "EDIT" appears in the Status column to show that member A has been edited. When the Status column shows an asterisk (*) before the status, it means that this action occurred during the current IMS HP Sysgen Tools ISPF session. Status of VERIFY or INSTALL is maintained across ISPF sessions, while status of EDIT or FAILED are not carried across ISPF sessions.

When an installation completes successfully, the status panel displays the information shown in Figure 126 on page 142. A summary of installation status appears at the top of the report, showing all IMS subsystems affected by the installation and each IMS subsystem's status for the installation. This status indicates whether the install was successful, failed, or was backed out.

When installing a Resource Update List for a group of IMS subsystems, the installation process is synchronized among the systems. If an error occurs in one subsystem, the installation is backed out in all other IMS subsystems affected by the change. The Resource Update List installation goes through the following steps for each target IMS subsystem.

1. The Resource Update List is verified. Error conditions are displayed on the status screen as shown in Figure 124.

Completed Installation

When an installation completes successfully, the status panel displays the information shown in Figure 126 on page 142. A summary of installation status appears at the top of the report, showing all IMS subsystems affected by the installation and each IMS subsystem's status for the installation. This status indicates whether the install was successful, failed, or was backed out.

When installing a Resource Update List for a group of IMS subsystems, the installation process is synchronized among the systems. If an error occurs in one subsystem, the installation is backed out in all other IMS subsystems affected by the change. The Resource Update List installation goes through the following steps for each target IMS subsystem.

1. The Resource Update List is verified. Error conditions are displayed on the status screen as shown in Figure 124.
2. IMS commands which were requested BEFORE installation are issued. Command responses are displayed on the screen.

3. Inactive MODBLKS and MATRIX data sets are updated, and the list of data set(s) and information about updated modules are displayed.

4. IMS HP Sysgen Tools updates the IMS incore control blocks for any Resource Update List entries which update a resource, and performs an IMS online change. The online change process switches the MODBLKS and MATRIX data sets to the updated inactive libraries, which causes the libraries to become active. This ensures that the next IMS restart includes the changes being installed. IMS HP Sysgen Tools displays the IMS online change status both before and after the online change process is completed.

5. IMS HP Sysgen Tools performs any requested ACBLIB reload functions, verifies that new programs and databases have a PSB or DBD in the IMS ACBLIB (and issues a warning message if not), and issues IMS commands which were issued AFTER the installation process. The IMS commands and responses are displayed on the screen.

Figure 126 on page 142 shows an example of a successful installation and the messages that IMS HP Sysgen Tools issued during the installation. In this example, installation was performed for a group of IMS systems, which included IMS7 and IMS9. Because there were two IMS subsystems in this installation, the output shows status information for each IMS subsystem.
It is possible that the library and module summaries will be displayed even if the installation fails. The status shown at the beginning of the report indicates if the installation was successful. Figure 127 on page 143 shows an example of a failed installation. The IOH4902E message at the end of the report shows the reason for the failure.
Press the End key (usually, PF3) from the Update List Results panel to return to the resource update member list. The selected member is updated to include a status of either *INSTALL if the installation was successful, or *FAILED if the installation was unsuccessful.

Figure 127. Installation status panel (2 of 2)
Chapter 8. Creating Resource Update List entries in batch

IMS HP Sysgen Tools includes a utility which you can use to convert IMS sysgen macros to IMS HP Sysgen Tools Resource Update List entries.

The IOHCLIST utility reads a set of IMS sysgen macros, compares the definitions to those present in an IMS subsystem, and creates a Resource Update List to synchronize the sysgen source macros with the definitions in the IMS subsystem.

You can supply either a partial set of IMS sysgen macros, or the full sysgen source. If a partial set of sysgen macros is supplied, the utility synchronizes only the macros presented and does not delete definitions which are missing from the sysgen source. If a full set of sysgen macros is supplied, the utility generates Resource Update List entries to delete resources defined to the IMS subsystem which are no longer in the sysgen source.

Running the utility in “full” mode provides the ability to re-synchronize IMS definitions with your current IMS sysgen source. The utility also shows which IMS resources do not match your IMS sysgen source.

In addition, you can supply special $IOHGEN macros, which allow you to have the IOHCLIST utility generate ACB reload entries and AGN update entries.

Topics:
• [Processing the IOHCLIST]

Processing the IOHCLIST

When you run the IOHCLIST utility, IMS HP Sysgen Tools reads the IMS sysgen source you define in the IOHGEN DD name. The sysgen source is validated and stored in internal control block format. If the sysgen source is successfully processed, IMS HP Sysgen Tools obtains the resource definitions from the IMS subsystem for comparison.

IMS HP Sysgen Tools compares sysgen source definitions with definitions from either the MODBLKS data set (if CTLBLKS=DASD was requested) or from the IMS incore resource definitions (if CTLBLKS=CORE). It creates Resource Update List entries to add any sysgen source definitions which are not present in the active MODBLKS data set, and entries to update definitions which have been updated in the IMS sysgen source. In addition, if SOURCE=FULL was run, IOHCLIST creates entries to delete IMS resources which are not present in the IMS sysgen source.

Running IOHCLIST with SOURCE=PARTIAL

Partial mode allows you to supply a subset of IMS sysgen macros, for example, only updated DATABASE, APPLCTN, TRANSACT, or RTCODE macros; and to create a Resource Update List that updates or adds IMS resource definitions to allow the new sysgen macros to be implemented in a running IMS subsystem. You can use this process if a subset of IMS sysgen source has been updated and you want to install only those changes to IMS sysgen source.
To use PARTIAL mode with TRANSACT or RTCODE macros, you must also include the APPLCTN macro associated with each TRANSACT or RTCODE macro. This is required to ensure that transaction and route codes are assigned to the proper program names. Failure to provide the proper APPLCTN macro prior to each TRANSACT or RTCODE macro results in either a syntax error while processing the IMS sysgen source or a change to the program name associated with the transaction or route code. The change will result in an unexpected APPLCTN program definition.

**Running IOHCLIST with SOURCE=FULL**

FULL mode processing allows you to synchronize the entire IMS sysgen source with a running IMS subsystem. You must supply your entire IMS sysgen source when using FULL mode or the Resource Update List will contain entries to delete resources you may not want to delete.

The sysgen source you supply need not include terminal macros, but it must include any MSC link definitions.

**Using the $IOHGEN macro**

IMS HP Sysgen Tools supports the use of an internal macro, $IOHGEN, to allow the inclusion of ACB reload entry requests and selected MATRIX security update entry requests. The IOHCLIST utility allows you to specify the name of a PSB or DBD ACB to be reloaded, or the name of an AGN definition to be updated. AGN updates include specification of the name of a PSB, transaction, or LTERM to be connected to or disconnected from the Application Group Name (AGN).

Simply include the new macro in the gen source for the IOHCLIST utility. IOHCLIST reads the $IOHGEN macro and creates resource update list entries to make the changes you request.

For an ACB reload request, simply code a sysgen source statement using one of the following statements:

```plaintext
$IOHGEN RELOAD,PSB=psbname
$IOHGEN RELOAD,DBD=dbdname
```

For an AGN update request, use a $IOHGEN macro statement of the following format:

```plaintext
$IOHGEN AGN=agn-name,AGPSB=psbname,ACTION=CONNECT
$IOHGEN AGN=agn-name,AGPSB=psbname,ACTION=DISCONN
$IOHGEN AGN=agn-name,AGTRAN=trancode,ACTION=CONNECT
$IOHGEN AGN=agn-name,AGTRAN=trancode,ACTION=DISCONN
$IOHGEN AGN=agn-name,AGLTERM=lterm,ACTION=CONNECT
$IOHGEN AGN=agn-name,AGLTERM=lterm,ACTION=DISCONN
```

The keywords and operands for the $IOHGEN macro are described below. The $IOHGEN macro statement follows standard assembler syntax rules. At least one blank must precede and follow the $IOHGEN opcode. Statements can be continued by including a non-blank character in column 72 and leaving columns 1-15 of the continued line blank. Each $IOHGEN statement specifies one and only one change to be made to the IMS environment. If, for example, there are two PSB members of ACBLIB to be reloaded, you would code two different $IOHGEN macros.

**ACTION=**

Use this keyword to specify whether a resource name is to be added to
(ACTION=CONNECT) or removed from (ACTION=DISCONN) an AGN. When you specify this keyword, the AGN= keyword is required together with only one of the following keywords: AGLTERM=, AGPSB=, AGTRAN=.

AGN= Use this keyword to specify the name of the AGN to be updated. When you specify this keyword, the ACTION= keyword is required together with only one of the following keywords: AGLTERM=, AGPSB=, AGTRAN=.

AGLTERM Use this keyword to specify the name of an IMS LTERM to be added to or removed from an AGN, as specified with the ACTION= keyword. If you specify this keyword, then the AGN= and ACTION= keywords are required. No other keywords are permitted.

AGPSB= Use this keyword to specify the name of the PSB to be added to or removed from an AGN (as specified with the ACTION= keyword). If you specify this keyword, then the AGN= and ACTION= keywords are required. No other keywords are permitted.

AGTRAN= Use this keyword to specify the name of the transaction to be added to or removed from an AGN (as specified with the ACTION= keyword). If you specify this keyword, then the AGN= and ACTION= keywords are required. No other keywords are permitted.

DBD= Use this keyword to specify the name of the DBD to be reloaded. If this keyword is specified, then the RELOAD keyword is required. No other keywords are permitted.

PSB= Use this keyword to specify the name of the PSB to be reloaded. If this keyword is specified, then the RELOAD keyword is required. No other keywords are permitted.

RELOAD Use this keyword to specify that an ACBLIB reload resource update list entry is to be created. If this keyword is specified, then either the DBD= or PSB= keyword is required, and no other keywords are permitted.

For example, the following macros would create Resource Update List entries to reload the DFSSAM02 PSB and to update the AGN named IVP by adding PSB name DFSSAM02.

```plaintext
$IOHGEN RELOAD,PSB=DFSSAM02
$IOHGEN AGN=IVP,AGPSB=DFSSAM02,ACTION=CONNECT
```

**IOHCLIST JCL requirements**

Sample JCL for the IOHCLIST utility is included in the SIOHSAMP data set in member IOHCLIST. The sample job also shows the DD statements required for the IOHCLIST utility. The DD statements are listed below:

**STEPLIB**
Must reference the IMS HP Sysgen Tools SIOHLINK library

**IOHPRINT**
Output report DD definition; DCB attributes are RECFM=FBA and LRECL=133

Chapter 8. Creating Resource Update List entries in batch 147
SYSABEND
Dump output DD

IOHGEN
IMS sysgen source macros. This DD can reference a sequential data set, a member of a PDS, or a PDS without a member name. When specifying a PDS without a member name, the SELMBR statement must specify one or more member names. If a PDS data set is specified without a member name, only one data set name can be specified for this DD statement. Multiple sequential data sets (or PDS data sets with member names) can be specified by concatenating.

IOHOPT
IMS HP Sysgen Tools IOHOPT data set. This data set must include the options member for the IMSID specified on the IMSID control card.

IOHPDS
IMS HP Sysgen Tools data set. This is the PDS where the Resource Update List is stored.

SYSIN
Specifies the location of the data set. IMS HP Sysgen Tools control cards.

IOHCLIST control cards

As shown in the sample job, control cards are used to specify the parameters for running the IOHCLIST utility.

Control cards may include comment cards which are identified with an asterisk (*) in column 1 of the statement. Each record in the SYSIN file can specify only one statement. Statements are written in the form KEYWORD = value. At least one blank must follow the value specified, and any information following the blank is ignored.

Each control card must include a keyword. The keyword can be in any position on the record. The keyword must be followed by zero or more blanks, an equal sign (=), and the value for the keyword. The value may be enclosed in parentheses.

There can be only one occurrence of each keyword in the SYSIN records, with the exception of the SELMBR keyword. It can be included as many times as necessary to define all the required IOHGEN member names to be processed.

The following statements are supported by the IOHCLIST utility.

IMSID=
This statement is required. Defines the IMSID of a running IMS subsystem. The IMS subsystem need not be running on the same MVS system as the IOHCLIST utility.

LIST=
This statement is required. It defines the name of the Resource Update List to be created by the IOHCLIST utility. The Resource Update List is saved in the data set defined by the IOHPDS DD. In addition to the Resource Update List member name, if the Resource Update List already exists in the IOHPDS data set, the REPLACE keyword must be specified. To include this specification, add a blank or comma and the word REPLACE following the update list name.

DCLWA=
This statement is optional. If specified, it must have a value of YES or NO.
This keyword allows you to specify the default value of the DCLWA attribute for each transaction. If the IMSCTRL macro with the DCLWA keyword is included in the sysgen source processed by the IOHCLIST utility, the IMSCTRL specification overrides the value specified on this statement.

SELMBR=
This statement is optional. It specifies the member name(s) of the IOHGEN data set to be processed by the IOHCLIST utility. If the IOHGEN DD references a PDS data set without a member name, use this statement. Otherwise, you should omit it. You may specify the SELMBR statement multiple times in a single execution of the IOHCLIST utility. The value specified for this keyword must be one or more member names which are to be included when processing the IOHCLIST utility. Generic member names are permitted. Use an asterisk (*) to replace any single character in a member name. For example, SELMBR=****STG1 would include all members with “STG1” in positions 5-8 of the member name. It would not include a member named IMSSTG1 because STG1 occurs in positions 4-7 of that member name.

SOURCE=
This statement is required. It specifies whether the IOHCLIST utility is to run in PARTIAL mode or FULL mode. It must specify a value of PARTIAL or FULL. FULL mode creates delete entries in the Resource Update List to delete all resources not included in the IMS sysgen source.

CTLBLKS=
This is a required statement. It specifies where the IOHCLIST utility is to obtain IMS resource definitions from the MODBLKS data set (CTLBLKS=DASD) or use the incore IMS resource definitions (CTLBLKS=CORE). It must specify a value of DASD or CORE. You can use CTLBLKS=CORE to reset IMS definitions back to their IMS sysgen status, undoing the effect of any /ASSIGN type commands (such as /ASSIGN, /STA DB ACCESS=parameter, /M$ASSIGN, or /CHANGE).

You can use CTLBLKS=DASD to ignore any changes from /ASSIGN type commands. Note that the database ACCESS intent is one of the resource attributes affected by an /ASSIGN type command.

IOHCLIST return codes

The IOHCLIST utility indicates success or failure by the condition code presented at the end of the job step.

The following condition codes are possible.

0  The utility completed successfully, and a Resource Update List was created.
4  The utility completed successfully, but no changes were required to the IMS control blocks. No changes were made to the IOHPDS data set.
8  An error occurred while the utility was running. Review the job output to determine the cause of the error.

Output of the IOHCLIST utility

The output of the IOHCLIST utility has four sections.
First, input control cards are listed, along with any error messages associated with processing the control cards. IOH3241I messages follow the control cards and summarize the options used while the utility was processing.

Next, IOH3243I messages describe the IMS resource definition and release information retrieved from the IMS subsystem.

Next, the sysgen source presented to the utility is listed, along with any warning or error messages associated with the sysgen macros.

Finally, the final output listing section shows the Resource Update List entries that were generated for synchronization with the sysgen source.
This section describes the JCL and control card requirements for verifying or installing an IMS HP Sysgen Tools Resource Update List in a batch job.

These topics describe the JCL and control card requirements for performing a verify or install of an IMS HP Sysgen Tools Resource Update List in a batch job.
Sometimes changes to IMS sysgen resource definitions must be installed while an application is being upgraded. The batch interface to the IMS HP Sysgen Tools Verify and Install functions allows the installation of one or more Resource Update Lists in a batch job that can be scheduled and run by the production job scheduling group or by the application software installers.

The following three return codes are used by the batch update utility:

0   All functions completed successfully.
4   All functions completed successfully, but the printed job output contains warning messages. This return code is typically issued when a new resource that is being added does not have a definition in the IMS ACBLIB data set.
8   At least one request failed. Refer to the printed output for error messages that describe the reason for the failure.

Topics:
- “JCL requirements”
- “Control cards used for batch update list processing” on page 153
- “Batch update list return codes” on page 153

JCL requirements

A sample job to perform batch verify or install processes is included in the IMS HP Sysgen Tools sample library, SIOHSAMP, in member IOHBLST. The following DD statements are used to run the batch update list utility:

**STEPLIB**
This DD statement must refer to the IMS HP Sysgen Tools load library, SIOHLINK.

**IOHOPT**
This DD statement must refer to the IMS HP Sysgen Tools options library where the IMSID options are stored.

**IOHPDS**
This DD statement must refer to the library where the Resource Update Lists to be processed are stored. This library name is also specified on the IMS HP Sysgen Tools ISPF Primary Options menu.

**IOHPRINT**
This DD statement is used for output messages from the batch update list utility. It will typically be a SYSOUT file, although it can be used to place utility output in a data set.

**SYSUDUMP**
This optional DD statement is used to record diagnostic information in the event a failure in the batch update list utility occurs.

**SYSIN**
This DD statement is required and must specify the control cards that are used by the batch update list utility. The control cards can be included in the JCL (by using DD *) or can be in a data set. If a data set is used, it must have DCB attributes LRECL=80 and RECFM=FB.
Control cards used for batch update list processing

Control cards are used by the batch update list utility to specify the functions that you want. Because the only functions the batch update list utility can perform are Verify and Install, there are two control cards that can be used with this utility. The following general syntax rules apply to the control cards that are supplied by using the SYSIN DD statement.

- An asterisk (*) in column 1 indicates that this is a comment statement. It is ignored by the utility. A comment card cannot be continued; you must code any following comment statements with an asterisk in column 1.

- The first word on a statement must be either VERIFY or INSTALL, depending on the function that you want to perform.

- Two keywords are required for each VERIFY or INSTALL statement, IMSID= and either IMSID= or TARGET=.

- You must specify the target IMS system for the VERIFY or INSTALL function. You can specify a single IMSID using the IMSID= or TARGET= keywords, or a group of IMS systems by using the TARGET= keyword. Whatever IMSID or group name you specify must be defined to IMS HP Sysgen Tools through the IMSID or GROUP SETUP panels.

- The NAME= keyword identifies one or more Resource Update List member names that are to be verified or installed. If more than one name is specified, separate the member names with a comma, and enclose the list in parentheses. For example, NAME=(MEMBER1, MEMBER2) will select Resource Update Lists that are named MEMBER1 and MEMBER2.

- Continuation of a statement is permitted. A comma at the end of a card indicates that the statement is continued on the next line.

Figure 129 shows some examples of valid control cards.

You can include multiple control cards in a single issuance of the batch update list utility. Each statement is processed individually. When multiple members are specified on a single control card, the members are merged and processed simultaneously. When multiple members are specified on separate control cards, they are processed individually.

To install several Resource Update Lists in a single batch job, it is more efficient to install all the Resource Update Lists at once (by specifying them all in a single statement). However, if one entry fails, none of the entries in any of the update lists will be installed.

Batch update list return codes
Part 4. IMS HP System Generation Tools batch utilities

The batch utilities are used to run IMS HP Sysgen Tools in batch mode.
Chapter 9. Using Fast Sysgen in batch mode

The Fast Sysgen utility to perform an IMS MODBLKS sysgen and IMS security gen in a single batch step is described in this section.

Fast Sysgen runs as a single job step in batch mode. You control the Fast Sysgen process through the PARM field of the EXEC statement and various optional and required DD statements.

Topics:

- "Fast Sysgen JCL"
- "Fast Sysgen batch output" on page 161
- "A first-time run suggestion" on page 167
- "Fast Sysgen performance suggestions" on page 41
- "IMS Sysgen source organization" on page 42

Fast Sysgen JCL

Fast Sysgen in batch requires JCL for processing. Sample JCL is included in SIOHSAMP as member IOHFGEN. You can also generate JCL for the batch Fastgen utility using ISPF option U.1.

PARM field specifications

The PARM field specifications for the Fast Sysgen utility are described here.

The EXEC statement in the batch JCL contains two keyword specifications in the PARM field: IMSID= and TARGET=.

**IMSID**

This optional keyword parameter may be specified to allow IMS HP Sysgen Tools to dynamically allocate any data sets not included in the batch JCL. The IMSID options stored in the IOHOPT data set are used to determine the data set names of the MODBLKS, MATRIX, and gen source data sets. If any of these data sets is not included in the JCL for the Fastgen job step, IMS HP Sysgen Tools determines the data set name(s) from the IMSID options and dynamically allocates the data sets.

**TARGET**

This keyword parameter specifies which MODBLKS and MATRIX data sets are to be updated by this run of the Fast Sysgen utility. Possible values for TARGET are:

- **blank** - No data sets are updated while Fast Sysgen utility is processing. You can specify TARGET= or TARGET=() to perform a syntax check of your IMS sysgen source statements.
- **A** - The A libraries identified by the MODBLKSA and MATRIXA DD statements.
- **B** - The B libraries identified by the MODBLKSB and MATRIXB DD statements.
- **S** - The staging libraries identified by the MODBLKS and MATRIX DD statements.
I - The inactive MODBLKS and MATRIX data sets. These might be specified
by the MODBLKSA and MATRIXA DD statements or the MODBLKSB and
MATRIXB DD statements depending on the currently active suffix. IMS HP
Sysgen Tools uses either the MODSTAT or OLCSTAT data set to determine
which MODBLKS/MATRIX data set is inactive and which is active. If you
do not specify TARGET=I, the MODSTAT or OLCSTAT DD statements are
not required for the Fastgen batch job.

You can update multiple libraries by running the Fast Sysgen utility one
time. To update multiple libraries, simply specify the desired one character
identifiers in parentheses separated by commas. For example, to update the
inactive and staging libraries, specify TARGET=(S,I). If only one library
identifier is used, the parentheses are optional; TARGET=S and TARGET=(S)
are both valid.

The sample job IOHFGEN in the SIOHSAMP data set contains sample JCL for
batch processing.

Fast Sysgen utility DD statements

The DD statements for the Fast Sysgen utility are described here.

Required DD statements

STEPLIB

The STEPLIB DD must include both the IMS HP Sysgen Tools program
library and the IMS RESLIB data set. The RESLIB data set specified must
be the RESLIB data set used by the IMS control region or a copy of that
data set. Two members are read from the RESLIB data set: DFSVC000,
from which the IMS release is determined, and DFSISDCx (where x is the
nucleus suffix specified in the IMS stage 1 sysgen macro IMSGEN
SUFFIX=) from which the IMS DC component names are determined.

Caution: If the wrong RESLIB data set is specified, unpredictable (and
undesirable) results will occur.

IOHPRINT

This DD statement specifies the location of the output from the IMS Fast
Sysgen process. Based on specifications in the Fast Sysgen control cards, it
might contain only Fast Sysgen process summary information, or it might
also include input listings, reports, and error messages.

If this DD statement directs the data to DASD, the data set will have
LRECL=133 and RECFM=FBA.

IMSGEN

IMS stage 1 macro listings and error messages are written to this DD
name. If this DD statement directs the data DASD, the data set will have
LRECL=133 and RECFM=FBA.

IMSRPT

IMS sysgen reports are written to this DD name. If this data is sent to a
DASD data set, the data set will have LRECL=133 and RECFM=FBA.

SECGEN

IMS security generation input statements and error messages are written to
this DD name. If this data is sent to a DASD data set, the data set will
have LRECL=133 and RECFM=FBA.
SECRPT

IMS security generation reports are written to this DD name. If this data is sent to a DASD data set, the data set will have LRECL=133 and RECFM=FBA.

IOHOPT

The IOHOPT DD defines the data set name of the IOHOPT data set. The IOHOPT data set is used if the IMSID= keyword is included in the PARM= field of the JCL. It is used to retrieve the data set names of the MODBLKS, MATRIX, and IMS and security gen source data sets.

Optional DD statements

MODSTAT

The MODSTAT DD statement is optional. If present, it defines the data set name of the IMS MODSTAT data set. If not specified, and the IMSID= keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the MODSTAT data set, if required. If this DD statement is included in the JCL, it overrides the data set name defined in the IMSID options. Note that if the IMS system uses Global Online Change, you should omit the MODSTAT DD and use the OLCSTAT DD instead. If the MODSTAT DD is included in the JCL, it should refer to the same data set which the IMS control region uses. The MODSTAT DD is used only if the TARGET= keyword in the PARM field includes "T", indicating that the inactive MODBLKS and MATRIX libraries should be updated by the Fastgen process.

OLCSTAT

The OLCSTAT DD statement is optional. If present, it defines the data set name of the IMS OLCSTAT data set. If not specified, and the IMSID= keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the OLCSTAT data set, if required. If this DD statement is included in the JCL, it overrides the data set name defined in the IMSID options. Note that if the IMS system uses Local Online Change, you should omit the OLCSTAT DD and use the MODSTAT DD instead. If the OLCSTAT DD is included in the JCL, it should refer to the same data set which the IMS control region uses. The OLCSTAT DD is used only if the TARGET= keyword in the PARM field includes "T", indicating that the inactive MODBLKS and MATRIX libraries should be updated by the Fastgen process.

MODBLKS

The MODBLKS DD statement is optional and defines the data set name of the staging MODBLKS data set. If not specified, and the IMSID= keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the MODBLKS DD, if required. If this DD statement is included in the JCL, it overrides the data set name defined in the IMSID options. MODBLKS DD is used only if the TARGET= keyword in the PARM field includes "S", indicating that the staging MODBLKS and MATRIX libraries should be updated by the Fastgen process.

MODBLKSA

The MODBLKSA DD statement is optional and defines the data set name of the A version of the MODBLKS data set. If not specified, and the IMSID= keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the MODBLKSA DD, if required. If this DD statement is included in the JCL, it overrides the data set name defined in the IMSID options.
If the MODBLKSA DD statement is included in the JCL, it should refer to the same data set which the IMS control region uses.

MODBLKSA DD is used only if the TARGET= keyword in the PARM field includes "A" or "I", indicating that the A MODBLKS and MATRIX libraries or the inactive MODBLKS and MATRIX libraries should be updated by the Fastgen process.

MODBLKSB
The MODBLKSB DD statement is optional and defines the data set name of the B version of the MODBLKS data set. If not specified, and the IMSID= keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the MODBLKSB DD, if required. If this DD statement is included in the JCL, it overrides the data set name defined in the IMSID options.

If the MODBLKSB DD statement is included in the JCL, it should refer to the same data set which the IMS control region uses.

MODBLKSB DD is used only if the TARGET= keyword in the PARM field includes "B" or "I", indicating that the B MODBLKS and MATRIX libraries or the inactive MODBLKS and MATRIX libraries should be updated by the Fastgen process.

MATRIX
The MATRIX DD statement is optional and defines the data set name of the staging MATRIX data set. If not specified, and the IMSID= keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the MATRIX DD, if required. If this DD statement is included in the JCL, it overrides the data set name defined in the IMSID options. The MATRIX DD statement is used only if the TARGET= keyword in the PARM field includes "S" for the staging MODBLKS and MATRIX libraries, and if IMS security gen source is included in the Fastgen process.

MATRIXA
The MATRIXA DD statement is optional and defines the data set name of the A version of the MATRIX data set. If not specified, and the IMSID= keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the MATRIXA DD, if required. If this DD statement is included in the JCL, it overrides the data set name defined in the IMSID options.

If the MATRIXA DD statement is included in the JCL, it should refer to the same data set which the IMS control region uses.

The MATRIXA DD statement is used only if the TARGET= keyword in the PARM field includes "A" or "I" for the A or Inactive MODBLKS and MATRIX libraries, and if IMS security gen source is included in the Fastgen process.

MATRIXB
The MATRIXB DD statement is optional and defines the data set name of the B version of the MATRIX data set. If not specified, and the IMSID= keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the MATRIXB DD, if required. If this DD statement is included in the JCL, it overrides the data set name defined in the IMSID options.

If the MATRIXB DD statement is included in the JCL, it should refer to the same data set which the IMS control region uses.
The MATRIXB DD statement is used only if the TARGET keyword in the PARM field includes "B" or "I" for the B or Inactive MODBLKS and MATRIX libraries, and if IMS security gen source is included in the Fastgen process.

**IOHGEN**

The IOHGEN DD is an optional DD statement that can be used to define the IMS sysgen stage 1 macro source data sets. If this DD statement is not specified, and the IMSID = keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the IMS sysgen source data sets. If this DD statement is included in the JCL, it overrides data set names defined in the IMSID options.

If specified in the JCL, the IOHGEN DD defines a concatenation of sequential data sets (or PDS data sets with member names). When JCL is used to specify the IMS sysgen source data sets, the COPY assembler statement cannot be included in the source statements. If you use COPY, you should use the IMS HP Sysgen Tools IMSID options to define the location of your IMS sysgen source libraries rather than specifying the data sets in the JCL.

**IOHSEC**

The IOHSEC DD is an optional DD statement which can be used to define the IMS security gen source data set(s). If not specified, and the IMSID = keyword is specified in the PARM field, IMS HP Sysgen Tools dynamically allocates the IMS sysgen source data sets. If this DD statement is included in the JCL, it overrides data set names defined in the IMSID options.

If specified in the JCL, the IOHSEC DD defines a concatenation of sequential data sets (or PDS data sets with member names).

**SYSUDUMP**

Although not required, this DD statement can often provide useful information about abnormal termination conditions. In the unlikely occurrence of a Fast Sysgen problem, IBM technical support might need the output from this DD statement for diagnostics.

---

**Fast Sysgen batch output**

There are five kinds of output from the batch Fast Sysgen process. The five types of output are written to five different DD statements, allowing you to control where diagnostic and report information is stored, and who has access to view the information.

The IOHPRINT DD contains IMS HP Sysgen Tools control information and all warning and error messages associated with the execution of the utility. If there is an error in the IMS stage 1 macro source, the macro statement in error is written to the IOHPRINT DD, followed by the error message.

The IMSGEN DD contains a full listing of the IMS stage 1 sysgen source macros and any associated error messages.

The IMSRPT DD is used to provide a tabular report showing all the IMS sysgen resource definitions and their options. If desired, you can download this information to a PC for processing in a spreadsheet application.

The SECGEN DD contains a full listing of all IMS security gen source statements and any associated error messages.
The SECRPT DD provides security reports which display information about the IMS resources which are protected using SMU security, and about which resources have access to each protected resource. For security reasons, this output should probably not be available to most users. Consider writing this output to a data set with appropriate security.

Output Examples

The control report information written to the IOHPRINT DD begins with a box indicating that the Fastgen process has started. If IMS stage 1 sysgen error messages are present, the follow Immediately, along with the macro that caused the error message to be generated, if appropriate.

Following the IMS sysgen process, Fast Sysgen performs the IMS security generation process, identified in Figure 130.

```
PAGE 3 IMS SYSGEN TOOLS VERSION 2.1.0 (5655-P43) FASTGEN UTILITY
DATE: 05/03/2005
IMS/ESA SECURITY GEN TIME: 14:37:03

***********************************************************************
  *  *  FASTGEN SCAN OF IMS SECURITY INPUT MEMBER DEVSGEN  *  *
  *  *  ***********************************************************************
```

Figure 130. IMS security generation listing example

Any error messages associated with the IMS security generation process will follow the box indicating that the IMS security generation process is running. If appropriate, these will include the statement that caused the error.

Following the IMS security generation process, Fast Sysgen updates the MODBLKS and MATRIX libraries with specifications from the IMS sysgen and IMS security generation processes. The linkage editor report shows the requested suffixes to be updated, the data set names associated with those suffixes, and the block size of each library. The report also indicates each module name created and the characteristics of the module. An example of this report is shown in Figure 131 on page 163.
**IMSGEN report DD**

The IMSGEN report DD contains a full listing of the IMS stage 1 sysgen source macros and any error messages that occurred during the IMS stage 1 sysgen process.

A sample listing is shown in Figure 132 on page 164.
IMSRPT report DD

The IMSRPT report DD contains a listing of all the resources defined during the IMS stage 1 sysgen processing.

A table of each transaction, program route code, and database are presented, with all the characteristics listed for each resource defined. Figure 133 on page 165 shows an example of the transaction portion of the report.
SECGEN report DD

The SECGEN report DD contains a full listing of all the IMS SMU security gen input, and any error messages that occurred while processing the IMS security gen input.

Because this report could contain sensitive information such as passwords or IMS terminal names which are authorized to issue transactions or commands, you may want to protect this output information from general access. A sample listing of the SMU security input is shown in Figure 134 on page 166.
SECRPT report DD

The SECRPT report DD contains a tabular listing of the resources defined to the IMS system, and the security protections requested by the IMS SMU security statements.

This example shows the report generated by IMS security gen processing.

```
1 ) ( PASSWORD IVP /* GENERATE PASSWORD SECURITY */
2 ) ( TERMINAL DFSTCF /* TCO FACILITY */
4 ) ( TERMINAL DFSTCFI /* TCO FACILITY */
```

Figure 134. SMU security gen input
A first-time run suggestion

The first time you run a batch Fast Sysgen process for each IMS system, it is suggested that you use the IMS Sysgen Compare utility, IOHCOMP, to verify that the output of the Fast Sysgen process exactly matches the output from a traditional IMS sysgen.

Figure 135. Resources defined to the IMS system
If there are any differences that were not caused by changes in IMS sysgen source, those differences should be reported IBM technical support.

**Related information:**

[Chapter 11, “Using Sysgen Compare,” on page 181](#)

IMS HP Sysgen Tools includes a Sysgen Compare utility that lets you compare two sets of IMS control blocks. You can use this utility to verify that two sets of MODBLKS and MATRIX modules are exactly the same.

---

### Using Fast Sysgen in IMS command mode

IMS command mode Fast Sysgen provides an easy way to implement changes to application resource definitions, particularly in a development environment.

The Fast Sysgen utility must be installed for IMS command mode to use any of the features. Verify that IMS command mode Fast Sysgen installation has been successfully completed by checking for message IOH401I in the JES log of the IMS control region address space.

**Important:** The IMS command interface is being deprecated in future releases of IMS HP Sysgen Tools. If you do not currently use the command interface, you should use the ISPF interface instead. If you are a current user of IMS HP Sysgen Tools, you should consider converting to Resource Update Lists and the ISPF interface. To implement changes in IMS sysgen source, you can use the sysgen source conversion utility to convert sysgen changes into Resource Update Lists which can be verified and installed. For more information, see Chapter 8, “Creating Resource Update List entries in batch,” on page 145.

**Topics:**

- “Command mode changes”
- “Running an IMS command mode Fast Sysgen” on page 169
- “IMS command mode Fast Sysgen change limitations” on page 170

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### Command mode changes

There are two command changes implemented if Fast Sysgen is installed in IMS command mode, /MODIFY PREPARE and /DISPLAY MODIFY.

If Fast Sysgen is not installed for IMS command mode, these command changes are not in effect.

**/MODIFY PREPARE command**

The IMS /MODIFY command syntax is dynamically updated to accept a new keyword parameter, 'FASTGEN'. This keyword is only available for a /MODIFY PREPARE MODBLKS command.

The only command syntax supported for a Fast Sysgen request is:

/MODIFY PREPARE MODBLKS FASTGEN

The FASTGEN parameter invokes the IMS command mode of the Fast Sysgen process. The inactive MODBLKS and MATRIX data sets are updated, and the results are used for the traditional /MODIFY PREPARE command process. As with any other /MODIFY PREPARE command, it must be followed by a /MODIFY COMMIT for the changes to become effective.

**/DISPLAY MODIFY ALL command**
If a /DISPLAY MODIFY ALL (or /DIS MODIFY command with any valid parameter) command is issued while Fast Sysgen is running (as part of a /MOD PREPARE MODBLKS FASTGEN), the last line of the display indicates that a Fast Sysgen is in progress. For example,

```
LIBRARY IMSACBA (A) IMS61.ACBLIBA
LIBRARY FORMATA (I) IMS61.FORMATA
LIBRARY MODBLKSA (I) IMS61.MODBLKSA
LIBRARY MATRIXA (I) IMS61.MATRIXA
LIBRARY IMSACBB (I) IMS61.ACBLIBB
LIBRARY FORMATB (A) IMS61.FORMATB
LIBRARY MODBLKSB (A) IMS61.MODBLKSB
LIBRARY MATRIXB (A) IMS61.MATRIXB
FASTGEN IN PROGRESS *00175/111046*
```

Other possible values for the final display line include:

```
FASTGEN IN PROGRESS (1)
FASTGEN IN PROGRESS (2)
FASTGEN IN PROGRESS (3)
```

The values in parentheses indicate the processing phase of Fast Sysgen:
- (1) - Indicates the IMS sysgen stage 1 input is being processed.
- (2) - Indicates that the IMS security gen source is being processed.
- (3) - Indicates that the MODBLKS and MATRIX data sets are being updated with the new sysgen specifications.

**Changes that can be implemented**

A MODBLKS type system generation is specifically designed to implement additions, changes, and deletions.

The following macro types are modified by the MODBLKS type system generation:
- APPLCTN
- DATABASE
- RTCODE (only to add or delete route codes)
- TRANSACT.

**Attention:** A MODBLKS type system generation does not allow terminal or other data communications resource changes or changes to the features used by an IMS command mode Fast Sysgen system. For example, if Fast Path is not defined in an IMS system, a MODBLKS type system generation cannot be used to add that function without unpredictable results.

Refer to [“IMS command mode Fast Sysgen change limitations” on page 170](#) for more detail on the restrictions and limitations of a MODBLKS IMS command mode Fast Sysgen change.

**Running an IMS command mode Fast Sysgen**

You can run the Fast Sysgen utility by using IMS command mode.

**Before you begin**
- Before running the IMS command mode Fast Sysgen process for the first time in an IMS system, it is recommended that you perform a batch run of Fast Sysgen in order to verify that the sysgen source and process are defined properly.
Errors encountered during an IMS command mode Fast Sysgen result in an IOH39xEx message being issued to the entering terminal. This message indicates which process (for example, IMS sysgen, security gen, or link edit) encountered a problem. Determining the cause of an IMS command mode Fast Sysgen error generally requires the use of the batch Fast Sysgen utility. IMS command mode processing of Fast Sysgen does not produce printed output. System errors (other than sysgen source errors) are written to the JES log of the IMS control region address space.

You can back out changes implemented by an IMS command mode Fast Sysgen by issuing a /MODIFY PREPARE MODBLKS command without the FASTGEN parameter, followed by a /MODIFY COMMIT. These commands switch the active libraries back to those used before the IMS command mode Fast Sysgen process started.

Procedure

To run the Fast Sysgen utility by using IMS command mode:

1. Start the Fast Sysgen process in IMS command mode by issuing /MODIFY PREPARE MODBLKS FASTGEN. This command performs the IMS command mode Fast Sysgen function, and identifies the changes to be implemented.
2. Show the status of the PREPARE by issuing a /DIS MODIFY ALL command. It might be performing the Fast Sysgen process, or it could be waiting for resources to become ready for the implementation of the IMS command mode Fast Sysgen change.
3. When the resource status displays a “NO WORK PENDING” in response to the /DIS MODIFY ALL command, implement the changes by issuing the /MODIFY COMMIT command.

IMS command mode Fast Sysgen change limitations

The IMS command mode Fast Sysgen process uses the IMS Online Change facility to implement changes to the IMS resource definitions. There are restrictions imposed by IMS Online Change for MODBLKS.

When assessing whether a set of changes can be implemented with IMS command mode Fast Sysgen change, you must be aware of several limitations. In general, checking performed by the stage 1 process does not tell you if you have made a change which cannot be implemented online. You need to consider effects of the following:

- “APPLCTN macro limitations”
- “DATABASE macro limitations” on page 171
- “RTCODE macro limitation” on page 171
- “TRANSACT macro limitations” on page 171
- “Page fixing limitation” on page 172
- “EMHB size limitation” on page 172
- “Resource conditions that cause IMS command mode Fast Sysgen change to wait” on page 172

APPLCTN macro limitations

The APPLCTN macro has limitations when running a Fast Sysgen by using the IMS command mode.

- If a message class is assigned as part of the PGMTYPE parameter, that class cannot exceed the maximum number of message classes defined for the system.
- If the transaction is designated for Fast Path, Fast Path must be active in the system.
• Routing a transaction to another IMS system requires the system name (SYSID parameter) and the use of Multiple Systems Coupling (MSC) to have been defined, previously.

• Although you can make changes to the RESIDENT and DOPT characteristics, PSBs defined as RESIDENT operate as nonresident until after the next restart, because the action of making PSBs resident takes place at IMS system initialization time.

• Changing the scheduling attribute to a resident PSB causes that PSB to become nonresident until the next IMS restart.

• If a BMP program becomes a message processing program, the transaction characteristics defined in the TRANSACT macro that control message scheduling do not take effect until after the next restart. However, the master terminal operator (MTO) can use the /ASSIGN command to specify the appropriate message class and processing priorities to the particular transaction. The transaction then becomes eligible for normal message scheduling.

DATABASE macro limitations
The DATABASE macro has limitations when running a Fast Sysgen by using the IMS command mode.

• Although the RESIDENT characteristic can be added, the process of making DMBs associated with the database resident does not take effect until after the next restart of IMS.

• Changes to the ACCESS parameter are not part of IMS Online Change; these changes can be made with the /START DATABASE command.

• You cannot include any change to MSDBs.

RTCODE macro limitation
The addition of this macro statement, or changes to its specification, is allowed only if Fast Path is active in the system. Be sure that the existing Fast Path User Input Edit routine is able to handle any added routing codes.

TRANSACT macro limitations
The TRANSACT macro has limitations when running a Fast Sysgen by using the IMS command mode.

• The MTO can control several of the characteristics specified by this macro using such commands as /ASSIGN, /MSASSIGN, /START, and /STOP. Any changes you make to the TRANSACT macro characteristics are not implemented as part of the IMS Online Change processing and become effective only at the next cold start of the IMS command mode Fast Sysgen system. They are:
  – PRTY
  – PROCLIM (count value)
  – PARLIM
  – SEGNO
  – SEGSIZE
  – SYSID

• Transactions designated as Fast Path potential need Fast Path to be active in the current system.

• Routing a transaction to another IMS system requires that MSC facilities be active in the current system. You cannot introduce a system name (SYSID parameter) that was not previously defined in the current system.

• Edit exit routines specified for a transaction must already be part of the current IMS system. The order of transaction edit routine names in the IMS stage 1 source cannot be changed with a MODBLKS generation.
Page fixing limitation
No additional page fixing is done for added control blocks until the next restart of IMS.

EMHB size limitation
If you use IMS command mode Fast Sysgen change to add or change a transaction-specific EMHB size, ensure that the new EMHB size is not larger than the EPSESRT size. The EPSESRT size is determined only during initialization.

During normal transaction processing, IMS checks the size of the input message against the EMHB length and the EPSESRT length. If the input message exceeds either the EMHB length or the EPSESRT length, it is rejected with message DFS0444.

Resource conditions that cause IMS command mode Fast Sysgen change to wait
Certain conditions cause IMS command mode Fast Sysgen change to wait.

The /MODIFY COMMIT command causes IMS to prepare to bring the changes or deletions defined by the new system definition to IMS. Using MODBLKS also quiesces transactions that are to be changed or deleted, and transactions that access databases or programs that are to be changed or deleted.

A transaction in QSTOP state cannot be entered during the time from the completion of a /MODIFY PREPARE command to the completion of the corresponding /MODIFY COMMIT or /MODIFY ABORT command. A transaction is rejected if it is to be changed or deleted, or if it accesses databases or programs that are to be changed or deleted.

By using the /DISPLAY MODIFY command, you can cause a list of transactions that are affected by a current IMS Online Change to be displayed. At the terminal, such a transaction is rejected with message DFS3470. If the transaction uses a Fast Path routing code that is changed or deleted, the rejection message is DFS3471. A CPI Communications driven transaction is never in a QSTOP state.

The following resource conditions cause a /MODIFY PREPARE command to wait for work to be completed.
- A transaction to be changed by the following system definition keywords has messages queued:
  - MSGTYPE
  - INQUIRY
  - FPATH
  - EDIT
  - SPA.

  The /MODIFY PREPARE will wait until the transaction is stopped or the messages are no longer queued.
- A transaction to be changed by keywords not shown in the preceding list has messages queued, and the transaction has not been the object of a /STOP or /PSTOP command.
- A transaction with access to a program or database that is to be changed or deleted is prevented from updating, and the transaction has not been the object of a /STOP or /PSTOP command.
When a transaction shows a status of USTOP during a /DISPLAY TRANSACTION, the /STOP command might need to be entered, because the /PSTOP command might not allow the /MODIFY command to complete the transaction.

- Programs or databases that are to be changed or deleted are scheduled.
- A program (PSB) that is currently scheduled has a program, database, or transaction that is changed or deleted. This includes Wait for Input (WFI) and Fast Path transactions. All WFI and Fast Path regions that reference changed or deleted routing codes, programs, or databases must be stopped before entering the /MODIFY COMMIT.
- A /START DATABASE command is in progress for any database that is changed or deleted.
- A /DBDUMP or /DBRECOVERY command is in progress for any database that is changed or deleted.

Operator action might be required to prevent the preceding conditions. For example, if a program or database is scheduled, the operator should either wait until the program or database is finished before the /MODIFY COMMIT command is entered, or the operator should issue /STOP or /PSTOP for the associated transaction.

---

**Fast Sysgen IMS command and batch mode restrictions and requirements**

The Fast Sysgen IMS command and batch modes support all IMS macros.

There are some restrictions and requirements for running Fast Sysgen processes that read IMS sysgen source. For more information, see *IMS Installation Volume 2: System Definition and Tailoring* for your installed version of IMS.

**Topics:**
- “Restrictions on assembler language facilities”
- “Converting restricted facilities to Fast Sysgen compatible source” on page 174
- “IMS stage 1 macro requirements” on page 174
- “Fast Sysgen processing” on page 175
- “IMS maintenance impacts” on page 177

**Restrictions on assembler language facilities**

Fast Sysgen IMS command and batch modes do not support all statements and features of z/OS assembler language. However, a supplied facility allows conversion from any z/OS assembler language constructs to a source compatible with Fast Sysgen.

The following list shows the supported assembler statements. Any deviations from the assembler-supported syntax or function are noted.
- COPY
- EJECT
- END - not required and not processed
- MN Note - statement is permitted, but is not processed.
- PRINT
- SPACE
- TITLE.
The Fast Sysgen process does not support symbolic variables, SET statements (such as SETC), or conditional assembly statements such as AIF and AGO.

If any restricted features of z/OS assembler language are present in IMS sysgen source, the Fast Sysgen conversion utility allows conversion from assembler source with restricted statements to IMS sysgen source that includes none of the restricted features.

**Converting restricted facilities to Fast Sysgen compatible source**

IMS HP Sysgen Tools provides the capability to convert any valid IMS sysgen source to IMS HP Sysgen Tools compatible IMS sysgen source.

This capability is useful for converting IMS sysgen source that has conditional assembler or symbolics included. The conversion process runs as a batch z/OS assembler step. The sample job IOHCGEN in the SIOHSAMP data set contains sample JCL for converting restricted facilities to sysgen source that is IMS HP Sysgen Tools compatible.

The SYSPUNCH DD defines the output of the conversion process (IMS HP Sysgen Tools compatible IMS sysgen source). The SYSPUNCH output can then be used as the IMS stage 1 sysgen input to the Fastgen batch process (the IOHGEN DD). All assembler conditional assembly and symbolic variables will be resolved.

The SYSIN DD statement must include the SIOHMACS data set member name IOHGEN before all IMS sysgen stage 1 sysgen source. The data sets that follow the SIOHMACS data set should be exactly the same as the SYSIN DD statement in the IMS stage 1 sysgen job.

The SYSLIB DD statement must specify the SIOHMACS data set first, followed by any user stage 1 source data sets that are present in the IMS stage 1 sysgen job's SYSLIB DD statement.

**IMS stage 1 macro requirements**

IMS stage 1 sysgen macro requirements are discussed using the following four categories: application, MSC link, system, and terminal.

Application macros are required to build the MODBLKS modules and can be updated from the prior IMS sysgen (with the restrictions noted in "IMS command mode Fast Sysgen change limitations" on page 170). These macro statements include:

- APPLCTN
- DATABASE
- RTCODE
- TRANSACT.

MSC link related macro definitions used in the last CTLBLKS or high level IMS sysgen must be included in the Fast Sysgen source. If no MSC links were defined in the previous sysgen, there should be no MSC link related macros in the Fast Sysgen source. The following MSC related macros are valid SYSID values that are permitted on APPLCTN and TRANSACT macros.

- MSLINK
- MSNAME
- MSPLINK.
System macro statements occur no more than one time in the IMS sysgen source. Any of the following macro statements used in the prior IMS sysgen must be included in the Fast Sysgen source. There are few changes permitted to these macro definitions during a MODBLKS type sysgen. For details, see *IMS Installation Volume 2: System Definition and Tailoring* for your installed version of IMS.

- BUFPOOLS
- COMM
- FPCTRL
- IMSCTF
- IMSCTRL
- IMSGEN
- MSGQUEUE
- SECURITY
- SPAREA.

Terminal related macro statements are not required for Fast Sysgen processing, but might be included in the stage 1 source. These macro statements are checked for assembler syntax, but their keyword values are not validated. If there are a large number of macro statements, they might be excluded from Fast Sysgen processing. Because only basic syntax checking is performed, and no keyword value validation is performed, overhead for including these macro statements in the Fast Sysgen source is minimal.

- CONFIG
- CTLUNIT
- IDLIST
- LINE
- LINEGRP
- NAME
- POOL
- STATION
- SUBPOOL
- TERMINAL
- TYPE
- VTAMPOOL.

**Note:** The Fast Sysgen process does cross-check LTERM names with transaction code names.

**Fast Sysgen processing**

Fast Sysgen processes input in multiple phases.

The first phase reads IMS sysgen macros and creates temporary internal sysgen definitions in storage. These definitions remain in storage until all sysgen input is read. After all stage 1 input is read, IMS resource definitions are created in storage. Control blocks vary in size depending on the IMS release. Table 8 shows the size of control blocks required for each IMS resource type.

*Table 8. IMS resource control block sizes*

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Internal Size</th>
<th>IMS 8.1</th>
<th>IMS 9.1</th>
<th>IMS 10.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database</td>
<td>14 bytes</td>
<td>112 bytes</td>
<td>112 bytes</td>
<td>144 bytes</td>
</tr>
<tr>
<td>Program</td>
<td>26 bytes</td>
<td>72 bytes</td>
<td>72 bytes</td>
<td>88 bytes</td>
</tr>
<tr>
<td>Transaction</td>
<td>55 bytes</td>
<td>136 bytes</td>
<td>144 bytes</td>
<td>176 bytes</td>
</tr>
<tr>
<td>Route Code</td>
<td>21 bytes</td>
<td>28 bytes</td>
<td>28 bytes</td>
<td>48 bytes</td>
</tr>
</tbody>
</table>
Storage for these resources is in extended (above the 16-megabyte line) private storage. This includes batch job private storage for batch processing or IMS control region address space private storage for IMS command mode Fast Sysgen.

The second phase of Fast Sysgen processing involves security. Security statements are read and validated, and the resulting definitions are held in extended private area storage.

The approximate storage requirements for security definitions are shown in Table 9.

Table 9. Security storage requirements

<table>
<thead>
<tr>
<th>Matrix Table</th>
<th>Internal of Bytes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Number of passwords times the maximum password length</td>
</tr>
<tr>
<td>B</td>
<td>(Number of passwords/8) times the number of password protected resources</td>
</tr>
<tr>
<td>C</td>
<td>(Number of terminals/8) times the number of terminal protected resources</td>
</tr>
<tr>
<td>D</td>
<td>2 bytes per transaction definition</td>
</tr>
<tr>
<td>E</td>
<td>2 bytes per LTERM defined in the last CTLBLKS or higher sysgen</td>
</tr>
<tr>
<td>F</td>
<td>2 bytes per DATABASE definition</td>
</tr>
<tr>
<td>G</td>
<td>2 bytes per program definition</td>
</tr>
<tr>
<td>H</td>
<td>2 bytes per command verb</td>
</tr>
<tr>
<td>I</td>
<td>2 bytes per terminal defined in the last CTLBLKS or higher sysgen</td>
</tr>
<tr>
<td>J</td>
<td>2 bytes per transact macro</td>
</tr>
<tr>
<td>K</td>
<td>2 bytes per command verb</td>
</tr>
<tr>
<td>L</td>
<td>(Number of commands/8) times the number of transaction definitions</td>
</tr>
<tr>
<td>M</td>
<td>8 bytes per transaction with TCOMMAND authorization</td>
</tr>
<tr>
<td>N</td>
<td>2 bytes per transaction definition</td>
</tr>
<tr>
<td>O</td>
<td>Number of terminal definitions/8</td>
</tr>
</tbody>
</table>

Application group name (AGN) security definitions require additional storage. Each AGN definition included in the security generation source requires 24 bytes, and an additional 8 bytes per entry in the security source (AGLTERM, AGTRAN, or AGPROG statements).

Because of the processing that occurs during the security phase, there are transitional storage requirements during MATRIX row reduction and converting from temporary storage to final module creation. To take this additional storage into account, the largest of the storage areas in the preceding list should be added to the total storage requirement.

After final storage resident modules are successfully created, the third phase of processing begins. The Fast Sysgen process uses its own linkage editing process to create load modules in the MODBLKS and MATRIX data sets. When Fast Sysgen writes modules to the MODBLKS and MATRIX data sets, it uses the same approach to integrity that the IMS sysgen and the IMS command mode Fast Sysgen change processes use.
When updating a staging library, Fast Sysgen issues a reserve on the volume where the library is located, using the same QNAME (SYSIEWLP) and same RNAME as the linkage editor. When updating the A and B libraries, Fast Sysgen uses the IMS command mode Fast Sysgen change enqueue QNAME (DFSOC001) and RNAME (library data set name). This enqueue processing ensures that other processes do not destroy the integrity of these data sets during the Fast Sysgen process.

During updates to the MATRIX data sets, Fast Sysgen first deletes any modules that could be created by this sysgen process. Since MATRIX modules are suffix dependant, only modules with the current sysgen suffix (as specified on the IMSGEN macro SUFFIX= parameter) are deleted. If MATRIX data sets are shared among multiple IMS systems and suffixes, this process will not interfere with the modules of other IMS systems. MATRIX modules are deleted prior to MATRIX data set updates to ensure that only those MATRIX modules that are created by this security generation are included by the IMS command mode Fast Sysgen system during security processing. For example, if all passwords are removed from the IMS security source statements, Fast Sysgen ensures that no password-related MATRIX modules remain in the MATRIX data set after the Fast Sysgen process completes.

Fast Sysgen processing is fully compatible with IMS security generation processing. If desired, the IMS security generation process can be run after you run Fast Sysgen. Fast Sysgen processing creates the DFSISDBx module in the MODBLKS data set that the IMS security generation process requires to accurately produce MATRIX modules.

**IMS maintenance impacts**

Regular PTF maintenance to IMS stage 2 macros could result in SMP/E installing updates to the staging MODBLKS library as defined in the IMS target zone. Because the HP system definition process does not provide stage 2 JCL for SMP/E JCLIN, such maintenance would require an IMS MODBLKS system definition and JCLIN prior to the SMP/E APPLY.
Chapter 10. Using the JCLIN generator

The JCLIN generator provides a way to create SMP/E JCLIN input from a MODBLKS data set. This allows you to run a JCLIN before SMP/E maintenance is applied.

This section explains how to use the JCLIN generator to run JCLIN after an IMS sysgen.

Topics:
- “When you should run JCLIN”
- “Creating JCLIN”
- “When to use the JCLIN generator” on page 180

When you should run JCLIN

It is strongly recommended that you run JCLIN after every IMS sysgen, including a MODBLKS type sysgen.

MODBLKS sysgens update five modules in the MODBLKS data set. The source for these five modules is stored in SMP/E by means of the JCLIN process.

The macros used for creating these modules can be changed by normal IMS maintenance. The macros are: DFSPSBD, DFSSMB, DFSDMD, and DBFRCT. If a PTF updates one of these macros, SMP/E automatically reassembles the appropriate MODBLKS modules using the most recent source available to SMP/E, which is the stage 2 job stream processed by JCLIN.

Creating JCLIN

It is strongly recommended that you run JCLIN after every IMS sysgen, including a MODBLKS type sysgen.

Because IMS HP Sysgen Tools updates the MODBLKS data sets without creating a stage 2 job stream, the HP Sysgen JCLIN Generator was created to enable you to create and run JCLIN and to create and run JCLIN to ensure that the information on MODBLKS modules is current with the modules created by IMS HP Sysgen Tools.

A batch utility is available in the IOHJCLIN sample member of the SIOHSAMP data set. You can use the IOHJCLIN sample member to generate the input to the SMP/E JCLIN process. The utility reads the MODBLKS data set and creates the source code for the MODBLKS modules, which can be used for JCLIN.

The following PARM parameter is included in the JCL for this utility:

**PARM=**

Specifies the IMS nucleus suffix for which JCLIN statements are to be created. Multiple suffix identifiers can be specified by enclosing values in parentheses and separating them with commas. For example the following two PARM= specifications are valid:
PARM='SUFFIX=A'
PARM='SUFFIX=(A,B,C)' 

The following DD statements are included in the JCL for this utility:

**STEPLIB**
Must specify both the IMS HP Sysgen Tools load library and the IMS RESLIB data set associated with the MODBLKS data sets specified in the JCL.

**IOHPRINT**
Shows any diagnostic messages associated with the running this utility.

**SYSUDUMP**
Provides dump diagnostics for abends.

**IOHPUNCH**
The stage 2 job stream created by the utility, which can be used as input to the SMP/E JCLIN process.

**MODSTAT/OLCSTAT**
Use the MODSTAT or OLCSTAT data set (but not both) to provide the information required for IMS HP Sysgen Tools to determine which MODBLKS data set is active (MODBLKSA or MODBLKSB). Ensure that you specify the MODSTAT or OLCSTAT data set name which is used by the IMS subsystem with the same SUFFIX= and MODBLKS data sets specified in this job. You can include both the MODSTAT and OLCSTAT DD statements, as long as one of the DD statements is a DD DUMMY (or DSN=NULLFILE).

**MODBLKSA, MODBLKSB**
The MODBLKS data sets used by the IMS system with the same SUFFIX and MODSTAT data set specified in this job. The MODSTAT data set is queried to identify the current data set which is used as the definition of the current IMS resources.

---

**When to use the JCLIN generator**

The JCLIN generator was created to provide the ability to ensure that SMP/E is consistent with the MODBLKS target library.

You must run the utility before applying maintenance that impacts the MODBLKS data set. Maintenance would be necessary if the macros DFSPSBD, DFSSMB, DFSDMD, and/or DBFRCT are updated by IMS base product maintenance. If such maintenance occurs for the base product, it would have a HOLD for IOGEN, which would indicate that the JCLIN process might need to be run. However, you can run the JCLIN process whenever SMP/E maintenance is applied, which reduces the possibility of problems that could be caused by forgetting to update the JCLIN information held by SMP/E.
Chapter 11. Using Sysgen Compare

IMS HP Sysgen Tools includes a Sysgen Compare utility that lets you compare two sets of IMS control blocks. You can use this utility to verify that two sets of MODBLKS and MATRIX modules are exactly the same.

Topics:
- “What Sysgen Compare does”
- “Sysgen Compare JCL”
- “Sample Sysgen Compare report” on page 182

What Sysgen Compare does

Sysgen Compare analyzes and reports on the members present in each of the libraries, noting any size differences.

It lists the number of each kind of resource defined in the two MODBLKS data sets. It also provides a dump format listing of each control block that is different in the two MODBLKS data sets or is present in only one data set.

It is recommended that the initial run of Fast Sysgen be performed using test versions of the output MODBLKS and MATRIX data sets. The compare utility can then be used to compare the current traditional IMS sysgen control blocks with those generated by the Fast Sysgen process. Any discrepancies should be investigated to see if they were caused by changes to the IMS sysgen source statements, and if not, the discrepancies should be reported to IBM technical support.

Sysgen Compare JCL

For a sample job that runs the Sysgen Compare utility, see sample member IOHCOMP in the SIOHSAMP data set.

**PARM field specification**

The EXEC statement for the compare utility contains one keyword parameter in the PARM field.

`SUFFIX = (v1,v2,...)`

This keyword identifies the suffix (or suffixes) of the modules to be compared by the utility. A suffix value is the same as that specified by the SUFFIX keyword of the IMSGEN macro in the IMS stage 1 source. It is also referred to as the nucleus suffix. It is one character in length.

Multiple suffixes can be specified in a single process by enclosing the suffix characters in parentheses and separating them with commas. For example, to compare both suffixes 0 and 1, use `PARM=SUFFIX=(0,1)'`. To specify a single suffix for comparison, the parentheses are optional. For example, both `PARM=SUFFIX=(0)'` and `PARM=SUFFIX=0'` are valid.

**Sysgen Compare DD statements**

The DD statements for Sysgen Compare are described here.
The STEPLIB DD statement must include both the IMS HP Sysgen Tools program library and the IMS RESLIB data set. The RESLIB data set is used to determine the release of IMS by examining module DFSVC000.

This DD statement specifies the location of the output from the compare process.

The MODBLKS1 DD statement identifies the first of the two MODBLKS data sets to be compared.

The MODBLKS2 DD statement identifies the second of the two MODBLKS data sets to be compared.

The MATRIX1 DD statement identifies the first of the two MATRIX data sets to be compared.

The MATRIX2 DD statement identifies the second of the two MATRIX data sets to be compared.

Although not required, this DD statement sometimes provides useful information about abnormal termination conditions. In the unlikely event of a Sysgen Compare problem, IBM technical support might need the output from this DD statement for diagnostics.

A sample report from the Sysgen Compare utility is described here.

The first section of the report lists the IMS release, suffix, and the names of the data sets to be compared.

The second section of the report lists each MODBLKS and MATRIX module name for that suffix. It shows the length of the module in both data sets, the status of the comparison, and a brief description of the module. The Compare Status field can contain one of the following values:

- IDENTICAL. This indicates that the data in the modules match exactly.
- IDENTICAL*. The asterisk indicates that a difference was found in a MATRIX module that does not affect the security definitions. This occurs because some MATRIX tables do not use all the fields in the MATRIX header, and the traditional IMS security generation process puts different values in these unused fields.
- NOT PRESENT. This indicates that the module was not present in either data set being compared, and is a normal status.
- DIFFERENT SIZE. This indicates that the modules were not the same size. The modules are different.
- DIFFERENT. This indicates that the modules were the same size, but did not contain the same data.
The third section of the report lists the number of MODBLKS resources defined. If differences in MODBLKS modules are found, a hexadecimal dump of the differences will be listed.

If a resource is defined in one MODBLKS library but not the other, the following output will be produced for each unmatched resource. The dump shows the entire control block for the resource.

```
Figure 136. Sample Sysgen Compare utility report
```

The third section of the report lists the number of MODBLKS resources defined. If differences in MODBLKS modules are found, a hexadecimal dump of the differences will be listed.

If a resource is defined in one MODBLKS library but not the other, the following output will be produced for each unmatched resource. The dump shows the entire control block for the resource.

```
IMS/ESA SYSGEN CONTROL BLOCK COMPARISON

IMS CONTROL BLOCK COMPARISON - IMS/ESA 6.1.0
COMPARISION REQUESTED FOR SUFFIX: M

COMPARE DDNAME MODBLKS1 IS DSNAME=TEST.MODBLKS
COMPARE DDNAME MODBLKS2 IS DSNAME=IMS.MODBLKS
COMPARE DDNAME MATRIX1 IS DSNAME=TEST.MATRIX
COMPARE DDNAME MATRIX2 IS DSNAME=IMS.MATRIX

<table>
<thead>
<tr>
<th>MODULE</th>
<th>MODBLKS1</th>
<th>MODBLKS2</th>
<th>COMPARE</th>
<th>STATUS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODBLKS1</td>
<td>MODBLKS2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DFSDDIRM</td>
<td>001450</td>
<td>001450</td>
<td>IDENTICAL</td>
<td>DATABASE BLOCKS</td>
<td></td>
</tr>
<tr>
<td>DFSDDIRM</td>
<td>001248</td>
<td>001248</td>
<td>IDENTICAL</td>
<td>PROGRAM BLOCKS</td>
<td></td>
</tr>
<tr>
<td>DFSDDIRM</td>
<td>001430</td>
<td>001430</td>
<td>IDENTICAL</td>
<td>TRANCODE BLOCKS</td>
<td></td>
</tr>
<tr>
<td>DFSDDIRM</td>
<td>000058</td>
<td>000058</td>
<td>IDENTICAL</td>
<td>ROUTCDE BLOCKS</td>
<td></td>
</tr>
<tr>
<td>DFSDDIRM</td>
<td>000518</td>
<td>000518</td>
<td>IDENTICAL</td>
<td>SECURITY BLOCKS</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MODULE</th>
<th>MATRIX1</th>
<th>MATRIX2</th>
<th>COMPARE</th>
<th>STATUS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATRIX1</td>
<td>MATRIX2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DFSISPBM</td>
<td>000058</td>
<td>000058</td>
<td>IDENTICAL</td>
<td>PASSWORD MATRIX</td>
<td></td>
</tr>
<tr>
<td>DFSISPBM</td>
<td>000280</td>
<td>000280</td>
<td>IDENTICAL</td>
<td>PASSWORD TABLES</td>
<td></td>
</tr>
<tr>
<td>DFSISPBM</td>
<td>000030</td>
<td>000030</td>
<td>IDENTICAL</td>
<td>TERMINAL MATRIX</td>
<td></td>
</tr>
<tr>
<td>DFSISPBM</td>
<td>000108</td>
<td>000108</td>
<td>IDENTICAL</td>
<td>TERMINAL TABLES</td>
<td></td>
</tr>
<tr>
<td>DFSISPBM</td>
<td>000030</td>
<td>000030</td>
<td>IDENTICAL</td>
<td>TCOMMAND MATRIX</td>
<td></td>
</tr>
<tr>
<td>DFSISPBM</td>
<td>000090</td>
<td>000090</td>
<td>IDENTICAL</td>
<td>TCOMMAND TABLES</td>
<td></td>
</tr>
<tr>
<td>DFSISPBM</td>
<td>000030</td>
<td>000030</td>
<td>IDENTICAL</td>
<td>SIGNON MATRIX</td>
<td></td>
</tr>
<tr>
<td>DFSISPBM</td>
<td>000108</td>
<td>000108</td>
<td>IDENTICAL</td>
<td>AGN MATRIX</td>
<td></td>
</tr>
</tbody>
</table>

DATABASE COMPARISON FOR SUFFIX M (MODULE DFSDDIRM):  
MODBLKS1 HAS 50 DATABASES  
MODBLKS2 HAS 50 DATABASES  

PROGRAM COMPARISON FOR SUFFIX M (MODULE DFSDDIRM):  
MODBLKS1 HAS 65 PROGRAMS  
MODBLKS2 HAS 65 PROGRAMS  

TRANSACTION COMPARISON FOR SUFFIX M (MODULE DFSDDIRM):  
MODBLKS1 HAS 38 TRANSACTIONS  
MODBLKS2 HAS 38 TRANSACTIONS  

RTCODE COMPARISON FOR SUFFIX M (MODULE DFSDDIRM):  
MODBLKS1 HAS 3 RTCODES  
MODBLKS2 HAS 3 RTCODES  

Figure 136. Sample Sysgen Compare utility report
```
If differences are found in a control block defined to both MODBLKS data sets, the following information will be listed for each resource that does not match. Comparing the dump format data for each resource can reveal the control block differences using the control block DSECT information.

**DIFFERENCES FOUND IN PROGRAM IRTIVPS1**

**DUMP OF MODBLKS1 PDIR**

<table>
<thead>
<tr>
<th>Offset</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>+000</td>
<td>00000000</td>
<td>00000000</td>
<td>C9D9E3C9</td>
<td>E5D7E2F1</td>
<td><em>........IRTIVPS1</em></td>
</tr>
<tr>
<td>+010</td>
<td>00000000</td>
<td>00000000</td>
<td>00000000</td>
<td>FFF0000</td>
<td><em>................</em></td>
</tr>
<tr>
<td>+020</td>
<td>40040000</td>
<td>00000000</td>
<td>00000000</td>
<td>00000000</td>
<td>* ...............*</td>
</tr>
<tr>
<td>+030</td>
<td>00000000</td>
<td>FFFFFFFF</td>
<td>00000000</td>
<td>00000000</td>
<td>* ................*</td>
</tr>
<tr>
<td>+040</td>
<td>00000000</td>
<td>00000000</td>
<td>00000000</td>
<td>00000000</td>
<td>* ................*</td>
</tr>
</tbody>
</table>

**DUMP OF MODBLKS2 PDIR**

<table>
<thead>
<tr>
<th>Offset</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>+000</td>
<td>00000000</td>
<td>00000000</td>
<td>C9D9E3C9</td>
<td>E5D7E2F1</td>
<td><em>........IRTIVPS1</em></td>
</tr>
<tr>
<td>+010</td>
<td>00000000</td>
<td>00000000</td>
<td>00000000</td>
<td>FFF0000</td>
<td><em>................</em></td>
</tr>
<tr>
<td>+020</td>
<td>40040000</td>
<td>00000000</td>
<td>00000000</td>
<td>00000000</td>
<td>* ...............*</td>
</tr>
<tr>
<td>+030</td>
<td>00000000</td>
<td>FFFFFFFF</td>
<td>00000000</td>
<td>00000000</td>
<td>* ................*</td>
</tr>
<tr>
<td>+040</td>
<td>00000000</td>
<td>00000000</td>
<td>00000000</td>
<td>00000000</td>
<td>* ................*</td>
</tr>
</tbody>
</table>
Chapter 12. Batch Reverse Sysgen utility

The IMS HP Sysgen Tools generates HP sysgen source macros from either the in-core IMS control blocks or from the active IMS MODBLKS data set.

You can use parameters passed to the utility to select whether or not to generate sysgen source to match the IMS MODBLKS data set or the IMS control region in core control blocks.

Topics:

- “Batch Reverse Sysgen utility JCL”
- “Batch Reverse Sysgen utility PARM field”
- “Batch Reverse Sysgen utility return codes” on page 186
- “Batch Reverse Sysgen utility output report” on page 186

Batch Reverse Sysgen utility JCL

You can modify the JCL for the Batch Reverse Sysgen Utility.

To view the sample JCL for the Batch Reverse Sysgen utility, see sample job IOHBRVRS in the SIOHSAMP data set. The sample job also shows the DD statements required for the Chapter 12, “Batch Reverse Sysgen utility.”

The following statements are supported.

**STEPLIB**=

This statement is required. It must reference the IMS HP Sysgen Tools load library (SIOHLINK).

**IOHOPT**=

This statement is required. It specifies the IMS HP Sysgen Tools IOHOPT data set. This data set must include the options member for the IMSID specified in the PARM field.

**IOHPRINT**=

This statement is required. It specifies the output report DD definition. The DCB attributes are RECFM=FBA and LRECL=133.

**SYSABEND**=

This statement is optional. It specifies the dump output DD.

**IOHPUNCH**=

This statement is required. It specifies the output DD statement. IMS sysgen source macros are written to this DD statement. The DCB information must be RECFM=FB and LRECL=80. The data set specified for this DD may be either a sequential data set (DSORG=PS) or a PDS with a member name specified in the JCL.

Batch Reverse Sysgen utility PARM field

Options for running the Batch Reverse Sysgen utility are specified in the PARM field of the job step.
You can specify two parameters, both of which are specified in the form keyword=value. The sample job provides JCL symbolics to assist with specifying the PARM field. The following keywords are permitted; each is required.

**IMSID=**

IMSID= defines the IMSID of an IMS subsystem. The IMS subsystem need not be running on the same MVS system as the Chapter 12, “Batch Reverse Sysgen utility,” on page 185. If the CTLBLKS= parameter below is specified as CORE, then IMS must be running when the Chapter 12, “Batch Reverse Sysgen utility,” on page 185 runs. If the CTLBLKS= parameter is specified as DASD, then IMS need not be running. The specified IMSID must have an IMSID options member in the IOHOPT DD statement in the Chapter 12, “Batch Reverse Sysgen utility,” on page 185 JCL.

**CTLBLKS=**

CTLBLKS= defines where the Chapter 12, “Batch Reverse Sysgen utility,” on page 185 obtains the definitions from which IMS sysgen source macros are generated. Specifying CTLBLKS=CORE causes the Chapter 12, “Batch Reverse Sysgen utility,” on page 185 to find the specified IMS subsystem and to obtain IMS sysgen resource attributes from the in core control blocks currently being used by that IMS subsystem. Specifying CTLBLKS=DASD obtains IMS sysgen resource attributes from the currently active MODBLKS data set.

---

### Batch Reverse Sysgen utility return codes

The Batch Reverse Sysgen utility indicates success or failure by means of a condition code presented at the end of the job step.

The following condition codes are possible:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The utility completed successfully, and all IMS sysgen macros required to reproduce the IMS configuration were written to the IOHPUNCH DD.</td>
</tr>
<tr>
<td>8</td>
<td>An error occurred while the utility was running. Review the job output (either in the IOHPRINT or JES job log) to determine the cause of the error.</td>
</tr>
</tbody>
</table>

---

### Batch Reverse Sysgen utility output report

The Batch Reverse Sysgen utility provides a short report describing the input parameters and the number of resources for which IMS sysgen macros were created.

Here is a Batch Reverse Sysgen utility sample report.
In addition to the report shown above, IMS sysgen macros are written to the data set described by the IOHPUNCH DD statement.

Figure 137. Batch Reverse Sysgen utility sample output
Chapter 13. Batch IMSID Options Utility

The HP Sysgen batch IMSID options utility, IOHBIMS, lists or updates the IMSID options module stored in the IOHOPT data set.

The batch utility provides an alternative to the ISPF interface documented in section “Setup IMS HP Sysgen Tools options” on page 28.

Using the batch utility has advantages and disadvantages over using the ISPF interface to edit IMSID options modules. The ISPF interface automatically captures the IMS system data set names allocated to the IMS control region, such as the RESLIB, MODSTAT/OLCSTAT, MODBLKS and MATRIX data sets. However, the ISPF interface requires APPC/MVS to be configured properly in order to obtain information from the IMS control region. If APPC/MVS is not configured or if IMS is not started, the ISPF interface cannot be used to create IMSID options modules.

IOHBIMS, on the other hand, can be used when IMS is not started or when APPC/MVS is not configured. The batch IMSID options utility can be used to list the information present in IMSID options modules, or to create and update IMSID options modules.

Topics:

- “IMSID Options Values”
- “Batch IMSID Options utility JCL” on page 192
- “Batch IMSID Options utility LIST function” on page 193
- “Batch IMSID Options utility UPDATE function” on page 194

IMSID Options Values

The IMSID options module stores information about each IMS system.

It is used by the ISPF interface, by HP Sysgen running in an APPC initiator on the target MVS system, and by many HP Sysgen batch utilities. HP Sysgen attempts to validate the options variables whenever possible. However, use care in specifying the values in the options module, as an incorrect data set name could result in an update of the wrong data set, which could cause an IMS control region abend during the next IMS restart.

The options values that can be specified are listed below, along with a description of each value.

<table>
<thead>
<tr>
<th>Options Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTH_USERID</td>
<td>The HP Sysgen authorized user ID. Use this user ID to perform activities associated with the installation of an HP Sysgen resource update list. This value must be specified as a name of 8 characters or less.</td>
</tr>
<tr>
<td>PSB_NAME</td>
<td>The HP Sysgen PSB name. This is the PSB name that is used by HP Sysgen to issue IMS commands when APPC/IMS is not available. This value must be specified as a name of 8 characters or less.</td>
</tr>
</tbody>
</table>
Table 10. Batch IMSID Options Variables (continued)

<table>
<thead>
<tr>
<th>Options Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGN_NAME</td>
<td>The Application Group Name to be used with the HP Sysgen PSB name. This option is only required if you use AGN security. If AGN security is not in use, leave the value blank or omit the statement completely. If AGN security is active, specify a name of 8 characters or less.</td>
</tr>
<tr>
<td>TP_NAME</td>
<td>The APPC TP name created for the HP Sysgen APPC transaction program and specified in the IOHTPADD job. This value must be specified as a name of 64 characters or less.</td>
</tr>
<tr>
<td>SYMDEST</td>
<td>The APPC symbolic destination associated with the MVS system where this IMS subsystem runs. This name may have been created using the IOHSIADD job. This value must be specified as a name of 8 characters or less.</td>
</tr>
<tr>
<td>SUFFIX</td>
<td>The IMS nucleus suffix. This name is the same as that specified in the IMS control region PROC or in the DFSPBxxx member of the IMS PROCLIB data set. This value must be specified as a single character.</td>
</tr>
<tr>
<td>OLC</td>
<td>This value specifies whether IMS online change is LOCAL or GLOBAL. This value must be specified as either LOCAL or GLOBAL.</td>
</tr>
<tr>
<td>IOHLOG</td>
<td>The data set name of the HP Sysgen log data set for this IMS system.</td>
</tr>
<tr>
<td>RESLIB</td>
<td>The data set name of the IMS RESLIB data set used by this IMS subsystem. The RESLIB must contain modules DFSISDCx and DFSVNUCx (where “x” is the SUFFIX).</td>
</tr>
<tr>
<td>MODSTAT</td>
<td>The data set name of either the MODSTAT or OLCSTAT data set that is used by this IMS subsystem.</td>
</tr>
<tr>
<td>MODBLKS</td>
<td>The data set name of the staging MODBLKS data set.</td>
</tr>
<tr>
<td>MODBLKSA</td>
<td>The data set name of the MODBLKSA data set used by this IMS subsystem.</td>
</tr>
<tr>
<td>MODBLKSB</td>
<td>The data set name of the MODBLKSB data set used by this IMS subsystem.</td>
</tr>
<tr>
<td>USER_MODBLKS</td>
<td>The data set name of an optional backup data set where the current MODBLKS data set members are to be maintained.</td>
</tr>
<tr>
<td>MATRIX</td>
<td>The data set name of the staging MATRIX data set.</td>
</tr>
<tr>
<td>MATRIXA</td>
<td>The data set name of the MATRIXA data set used by this IMS subsystem.</td>
</tr>
<tr>
<td>MATRIXB</td>
<td>The data set name of the MATRIXB data set used by this IMS subsystem.</td>
</tr>
<tr>
<td>USER_MATRIX</td>
<td>The data set name of an optional backup data set where the current MATRIX data set members are to be maintained.</td>
</tr>
</tbody>
</table>
Table 10. Batch IMSID Options Variables (continued)

<table>
<thead>
<tr>
<th>Options Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEN_MEMBER</td>
<td>The member name of the initial IMS Sysgen source. If the GEN_MEMBER field is specified, the data set names in the GEN_SOURCE variable must be PDS data sets without member names. If the GEN_MEMBER field is blank, then the GEN_SOURCE data sets must be either sequential data sets or PDS data sets with member names specified.</td>
</tr>
<tr>
<td>GEN_SOURCE</td>
<td>The data set names where IMS Sysgen source is located. There may be up to 30 data set names specified. All data sets specified must have the same data set organization – either sequential (or PDS with a member name) or PDS without a member name. When PDS data sets are specified, the GEN_MEMBER field must not be blank, as it contains the base Sysgen source member (that may contain assembler COPY statements). When specifying multiple GEN_SOURCE data sets, each data set must be completely specified on a line, and a comma must be used to separate data set names.</td>
</tr>
<tr>
<td>SEC_SOURCE</td>
<td>The data set names where IMS security gen source is located. There may be up to 10 data set names specified. Each specified data set must be either a sequential data set or a PDS with a member name specified. When specifying multiple SEC_SOURCE data sets, each data set must be completely specified on a line, and a comma must be used to separate data set names.</td>
</tr>
<tr>
<td>DRD</td>
<td>Indicates whether IMS Dynamic Resource Definition (DRD) is active in this IMS system. The value must be specified as either ENABLED or DISABLED. If a value is not specified, the default is DISABLED. If DRD=ENABLED is specified, you must also code values for the RDDS option to define the data set names that are used by IMS for DRD.</td>
</tr>
<tr>
<td>RDDS</td>
<td>Defines the data set names of the RDDS data sets that are used by this IMS system. Specify the data sets that are used by IMS to store resource definitions. IMS HP Sysgen Tools automatically determines which data set contains the current definitions. Data sets must be separated by commas, and each data set must be coded completely on a statement. The RDDS data sets can be coded on multiple statements by leaving a comma at the end of each statement to continue coding additional data set names on the next line. IMS HP Sysgen Tools supports the specification of up to 24 RDDS data set names.</td>
</tr>
</tbody>
</table>

If you are using the batch IMSID options utility because you do not wish to install or use the ISPF interface, and you only plan to use the batch Fastgen process, you need only specify values for the following keywords:

- SUFFIX
- OLC
• RESLIB
• MODSTAT
• MODBLKS
• MODBLKSA/B
• MATRIX
• MATRIXA/B
• GEB_MEMBER
• GEN_SOURCE
• SEC_SOURCE

Also, note that all values except SUFFIX and OLC can be overridden by specifying data set names in IOHFGEN JCL.

**Batch IMSID Options utility JCL**

You can modify the JCL for the Batch IMSID Options utility.

For the batch IMSID options utility sample JCL, see the IOHBIMS member in the SIONSAMP data set.

The following DD names are used by the IOHBIMS utility:

| **Table 11. Batch IMSID Options DD Statements** |
|----------------|----------------|
| **DD Names**  | **Description** |
| STEPLIB       | Specifies the data set name of the HP Sysgen load library, SIOHLINK. |
| IOHOPT        | Specifies the data set name of the IOHOPT data set. This library must be a PDS with RECFM=U and a block size of at least 4096. When using the LIST function to show the options currently defined, this library must contain a member named IOH@ followed by the IMSID. When using the UPDATE function, the IOH@ims ID member will be created or replaced. |
| IOHPRINT      | Report output file. The DCB attributes for the output file are RECFM=FBA and LRECL=133. The reports produced by the utility are documented in the LIST function and UPDATE function sections below. |
| SYSABEND      | Dump output file. |
| SYSIN         | Input file used for the UPDATE function. This DD is not used and can be omitted for the LIST function. For the UPDATE function, the statements included in the SYSIN file are documented in the UPDATE function section below. |

The following figure shows the four symbolic JCL parameters that are included in the sample job to simplify JCL customization:
## Table 12. Batch IMSID Options Symbolic JCL Variables

<table>
<thead>
<tr>
<th>JCL Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIOHLINK</td>
<td>The data set name of the HP Sysgen load library. This value is used in the STEPLIB DD of the utility JCL.</td>
</tr>
<tr>
<td>IOHOPT</td>
<td>The data set name of the IOHOPT data set. This value is used in the IOHOPT DD of the utility JCL.</td>
</tr>
<tr>
<td>FUNCTION</td>
<td>The function that the utility is to perform. This value is required, and it must be specified as either LIST or UPDATE. Batch IMSID Options utility functions are further described in the sections that follow.</td>
</tr>
<tr>
<td>IMSID</td>
<td>The IMSID whose options values are to be listed or updated. This value must be specified, and it must be four characters in length.</td>
</tr>
</tbody>
</table>

### Batch IMSID Options utility LIST function

The LIST function provides the capability to list the currently-specified IMSID options values in report form.

The sample JCL in SIOHSAMP member IOHBIMS can be used for both the LIST function and the UPDATE function. Note that the statements present in the SYSIN DD are not read when executing the LIST function.

The IOHPRINT output report produced by the LIST function shows each value specified in the IMSID options module. The following figure shows a sample report:

```
LIST OF OPTIONS VALUES FOR IMS MAA1

AUTH_USERID = IOHAUTH
PSB_NAME   = IOHPSB
AGN_NAME   =
TP_NAME    = IOH220.IMS_HP_SYSGEN
SYMDEST    = SYS1
SUFFIX     = 9
OLC        = LOCAL
DRD        = ENABLED
IOHLOG     = IMS910.IOH.IOHLOG
RESLIB     = IMS910.SDFSRESL
MODSTAT    = IMS910.MODSTAT
MODBLKS    = IMS910.MODBLKS
MODBLKSA   = IMS910.MODBLKSA
MODBLKSB   = IMS910.MODBLKSB
USER_MODBLKS =
MATRIX     = IMS910.MATRIX
MATRIXA    = IMS910.MATRIXA
MATRIXB    = IMS910.MATRIXB
USER_MATRIX =
GEN_MEMBER  =
GEN_SOURCE  = IMS810.IMSGEN.CNTL(IMS8MACS)
              IMS810.IMSGEN.CNTL(END)
SEC_SOURCE  = IMS810.IMSGEN.CNTL(SECURITY)
              IMS810.IMSGEN.CNTL(SEC2)
              IMS810.IMSGEN.CNTL(SEC3)
              IMS810.IMSGEN.CNTL(SEC4)
RDDS        = IMS11.IMS1.RDDS1
              IMS11.IMS1.RDDS2
              IMS11.IMS1.RDDS3
```
The variables that are shown in this sample are documented in section “IMSID Options Values” on page 189. The last three options, GEN_SOURCE, SEC_SOURCE, and RDDS can have multiple data set names. For example, in this sample report two data set names are listed for GEN_SOURCE and four for SEC_SOURCE. Also, the RDDS option is included only if DRD=ENABLED is specified.

Batch IMSID Options utility UPDATE function

The UPDATE function provides the capability to create or update the values specified in the IMSID options stored in the IOHOPT data set.

All values stored in the IMSID options are replaced with the specifications read from the SYSIN DD. When using the update function, you should always specify all the values in the IMSID options, not just specific values being updated. Other than syntax checking, no validation is completed for the values specified, so use caution when specifying the values in the SYSIN data.

When using the UPDATE function, the statements coded in the SYSIN DD are used to populate a new version of the IMSID options module. All statements are coded in a “keyword = value” type of syntax. Statements with an asterisk (*) in the first position of a statement are considered comment statements.

Only GEN_SOURCE, SEC_SOURCE, and RDDS statements can be continued. To continue one of these statements, code a comma after the data set name and continue with the next data set name on the next statement. An example of continuation is shown in the sample SYSIN data.

An example of the SYSIN statements is included in the sample job distributed in the SIOHSAMP data set member IOHBIMS.

Note that comment statements are present in the first 5 statements. The remaining statements show the “keyword = value” syntax used. Blanks are not required between the keyword, the equal sign, and the value, but they may be present. The keywords need not start in the first position of the statement, even though the example shows all keywords starting in column 1 for readability.

The last two statements show examples of continuation statements. The GEN_SOURCE and SEC_SOURCE statements are the only statement types that allow continuations, which show multiple data set names specified for each value.
Chapter 14. Using the Merge Clone utility

The Merge Clone utility creates a common set of application, transaction, and database definitions across multiple IMS systems.

Topics:

- "What Merge Clone does"
- "Merge clone utility restrictions"
- "Conflict resolution" on page 196
- "Merge Clone JCL" on page 198
- "Merge Clone reports" on page 201

What Merge Clone does

The IMS Merge Clone utility reads the IMS MODBLKS data sets and combines the definitions of up to 64 IMS systems.

After the process has completed, each IMS system will have the same set of APPLCTN, TRANSACT and DATABASE definitions. Each application and transaction definition will have the same attributes across all systems with the possible exception of the SYSID value. Each database definition will have the same attributes across all systems with the possible exception of the ACCESS value.

The Merge Clone program performs automatic generation of SYSID values. It does this by analyzing the PSB (from PSBLIB) and determining which IMS region has the proper database access to meet the PSB PROCOPT requirements. For each IMS system where the PROCOPT requirements are met, the transaction is defined as local. For systems that do not meet the PROCOPT requirements, a SYSID value is added to the definition to route the message to an IMS where the requirements are met.

Transaction routing can be forced by providing input to the Merge Clone program. Using control cards, you can specify on which system a transaction must run. You can specify the same transaction on any or all IMS regions.

Automatic determination of the SYSID value is done only for the transactions that are local somewhere inside a sysplex. SYSID values are not changed for transactions that are remote outside of the sysplex. For example, if you are merging IMS1 and IMS2, and they have transactions that are remote to IMS3, the transactions that run on IMS3 will not have their SYSIDs changed on IMS1 or IMS2.

Merge clone utility restrictions

Merge Clone requires that resources with the same name are, in fact, the same entity. If you are merging IMS1 and IMS2 and they both have database DB01 defined, it must be the same database. It must use the same DBD and it must have the same DSN. This is true for applications, as well. If you are merging IMS1 and IMS2 and they both have application PGM1, it must be the same PSB in both systems.
Conflict resolution

When merging systems, it is possible that conflicts exist among the attributes assigned to a resource defined in multiple systems.

The Merge Clone program will resolve these conflicts using the following philosophy:

1. Use the least restrictive parameter.
   For example, if there is a conflict in the SNGLSEG/MULTSEG parameter, MULTSEG would be used because it is less restrictive than SNGLSEG. A program that processes single segment messages can work when the transaction is defined as MULTSEG, but the reverse is not true.

2. Use the largest value.
   For example, if one system had a SPA size of 100 and the other had 500, Merge Clone would define SPA=500 on all systems.

3. Use the setting of the “Default Option.”
   If steps 1 and 2 do not resolve a conflict for a parameter, Merge Clone selects a “default option.” See the default options listed for each resource.

4. Set in any system, set it in all.
   For example, if one system has a database defined as RESIDENT, the resident option will be set for all systems.

Resolving TRANSACT conflicts

Merge clone utility TRANSACT conflicts are resolved by using a specific criteria.

The following illustrates how conflicts are resolved for all TRANSACT options:

- **Least Restrictive**
  - MSGTYPE=(SNGLSEG | MULTSEG)

- **Largest Value**
  - SPA size
  - EMHB size
  - SEGSZ (0 being the largest)
  - SEGNO (0 being the largest)
  - PROCLIM count
  - PROCLIM seconds
  - PARLIM
  - MAXRGN
  - PRTY limit count
  - PRTY normal
  - PRTY limit

- **Default Option**
  - MSGTYPE=(class)
  - MSGTYPE=(RESPONSE | NONRESPONSE)
  - EDIT=(UC | ULC)
  - MODE=MULT | SNGL
  - DCLWA=YES | NO
  - ROUTING=NO | YES
  - WFI
  - SCHD=1 | 2 | 3 | 4
  - SERIAL=NO | YES
  - FPATH=NO | YES | size
  - Program name used by transaction
  - SYSID if remote outside of sysplex
• **Set in Any, Set in All**
  - INQ=NO (else set to INQ=YES)
  - INQ=RECOVER (else set to INQ=NORECOV)
  - EDIT=(name)
  - RTRUNC/STRUNC (Uses first defined value. This is because the default option might be from an IMS 5.1 system that does not support these options.)

**Resolving APPLCTN conflicts**

Merge clone utility APPLCTN conflicts are resolved by using a specific criteria.

The following illustrates how conflicts are resolved for application definitions:

• **Default Option**
  - FPATH=NO\YES|size (value is obtained from the transaction assigned to this application)
  - LANG= (only if GSPB selected)
• **Set in Any, Set in All**
  - RESIDENT
  - DOPT (unless set to Resident in any system)
  - SCHDTYPE=PARALLEL (otherwise set to Serial)
  - PGMTYPE=(TP) (otherwise set to Batch)
  - GPSB (If GPSB is set in some but not in all, the Merge Clone program will see if a PSB really exists in PSBLIB. If so, GPSB is removed. If there is no PSBLIB member, GPSB is added to all systems.)

**Resolving database conflicts**

Merge clone utility database conflicts are resolved by using a specific criteria.

The following list illustrates how conflicts are resolved for database definitions:

• **Set in Any, Set in All**
  - RESIDENT
  - ACCESS=

Database ACCESS is determined by using the first rule that applies:

1. If the database is set to Update as part of the IOHSHLV input, (see [IOHSHLV](#)) it will be set to ACCESS=UP on all IMS systems.
2. If ACCESS=EX is found in any system, ACCESS=RO will be added to any system where the database is being added for the first time (other systems will not have their ACCESS changed).
3. If ACCESS=UP found on more than one system, it is assumed the database is SHARELV(3) in the RECON data sets and is made ACCESS=UP on all IMS systems.
4. If ACCESS=UP on only one IMS system, then ACCESS=RO for any system where the database is being added for the first time (other systems will not have their ACCESS changed).
5. If ACCESS=RO or RD, use the first ACCESS parameter as the default for all systems where the database is being added for the first time.
The JCL that is used by the Merge Clone program is composed of DD names that are required every time you run the program and DD names that are dependent upon user-supplied control cards.

For a sample of the required Merge Clone JCL, see member IOHMERGE in the SIOHSAMP library.

### Merge Clone DD statements

The DD statements for the Merge Clone utility are described here.

#### STEPLIB

The STEPLIB must refer to the library where the IMS HP Sysgen Tools were installed.

#### IOHLIST

This DD statement specifies the location for the output from the control card analysis and environment setup processing. This includes source listings and error messages.

It is recommended this be a SYSOUT data set, but if placed to DASD the DCB requirements are LRECL=121 and RECFM=FBA.

#### IOHEXCPT

This DD statement specifies the location of the output from conflict resolution processing, PSBLIB/DBDLIB analysis, and the stage 1 generation reports.

It is recommended this be a SYSOUT data set, but if placed on DASD the DCB requirements are LRECL=121 and RECFM=FBA.

Error messages (any message id ending with a “W”) written to this file will have a character string of two asterisks (“**”) that can be used to locate the messages. This should aid in finding any errors in the program listings.

#### IMS

This DD statement specifies the location from which the Merge Clone program will load the PSB and DBD modules. The Merge Clone program uses the PSB’s and DBD’s loaded from this DD statement to perform the transaction routing analysis and build. The members in this data set concatenation must accurately reflect the members used in your IMS systems.

#### IOHPDS

This DD statement specifies the location for the stage 1 IMS sysgen source output created by Merge Clone. Two members are created in this library for each IMSID processed by the utility. All program and transaction related macros for an IMS system are placed in a member named xxxxPGMS, where xxxx is the IMSID of that system. The database related macros for that IMS are place in a member named xxxxDBDS.

The data set defined by this DD statement must be a PDS (DSORG=PO) with LRECL=80 and RECFM=FB. Be sure to allocate sufficient space and directory blocks for the size and number of members created.

#### MBLLKS XXX DD

Merge Clone requires a DD statement for the IMS MODBLKS data set of each IMSID specified in the IOHIMSID control cards. (See IOHIMSID [specifying IMS systems](#). The DD name is determined by appending the
four byte IMSID to the constant 'MBLK'. The example shown following Table 17 on page 200 would require the following DD statements:

//MBLKS1 DD DISP=SHR,DSN=modblks-dsn for IMS1
//MBLKS2 DD DISP=SHR,DSN=modblks-dsn for IMS2
//MBLKS3 DD DISP=SHR,DSN=modblks-dsn for IMS3

**IOHAFFIN (forced transaction routing control)**

This DD statement specifies the location from where the control cards are read to force transaction routing. A control card contains the IMSID of where a transaction needs to run and the actual transaction name. The input data must be have an LRECL of 80 and the control cards must conform to the syntax shown here.

<table>
<thead>
<tr>
<th>Table 13. Forced transaction routing control card syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Columns</strong></td>
</tr>
<tr>
<td>1 - 4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6 on</td>
</tr>
</tbody>
</table>

For example:

IMS1 PART

A separate control card is required for each transaction. The same transaction can be forced to run on multiple IMS systems.

**IOHSHLVL (forced update access control)**

This DD statement specifies the location from where the control cards are read to force ACCESS=UP on databases. A control card contains the name of the database that will be made ACCESS=UP in all IMS systems. The input data set must have an LRECL of 80 and the control cards must conform to the syntax shown here.

<table>
<thead>
<tr>
<th>Table 14. Forced ACCESS=UP control card syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Columns</strong></td>
</tr>
<tr>
<td>1 - 8</td>
</tr>
</tbody>
</table>

For example:

DI21PART

**IOHIMSID (specifying IMS systems)**

This DD statement specifies the location from where the control cards are read that inform the Merge Clone program what systems are to be merged or cloned. There are three types of control cards and at least one of each is required for each IMS system being processed.

The three types of control cards are SUFFIX, VERSION, and SYSID. If you are processing more than two IMS regions, you will need more than one SYSID card for each IMS. The input data set must have an LRECL of 80. The control card statements must not go beyond column 72.

The Suffix control card must conform to the syntax shown here.

<table>
<thead>
<tr>
<th>Table 15. Suffix control card syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Columns</strong></td>
</tr>
<tr>
<td>1 - 4</td>
</tr>
</tbody>
</table>
Table 15. Suffix control card syntax (continued)

<table>
<thead>
<tr>
<th>Columns</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>blank</td>
</tr>
<tr>
<td>6 on</td>
<td>SUFFIX=x, where x is the gen suffix for the IMS system</td>
</tr>
</tbody>
</table>

The value specified for the suffix must be the gen suffix for the IMSID starting in column 1. For example:

IMS1 SUFFIX=1

The Merge Clone program uses this value to determine which modules to load from the associated MODBLKS data set.

The Version control card must conform to the syntax shown here.

Table 16. Version control card syntax

<table>
<thead>
<tr>
<th>Columns</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 4</td>
<td>ims-id or an asterisk (*) for a comment card</td>
</tr>
<tr>
<td>5</td>
<td>blank</td>
</tr>
<tr>
<td>6 on</td>
<td>VERSION=(v.r), the version and release</td>
</tr>
</tbody>
</table>

The value specified for the version must match the IMS version of the MODBLKS data set associated with the IMSID. Valid values for v.r are 8.1 or 9.1. For example:

IMS1 VERSION=(8.1)

Merge Clone uses this value to determine which IOH module to use to read the MODBLKS.

The SYSID control card must conform to the syntax shown here.

Table 17. Sysid control card syntax

<table>
<thead>
<tr>
<th>Columns</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 4</td>
<td>ims-id or an asterisk (*) for a comment card</td>
</tr>
<tr>
<td>5</td>
<td>blank</td>
</tr>
<tr>
<td>6 on</td>
<td>SYSID=(rmt,lcl), the remote and local IDs</td>
</tr>
</tbody>
</table>

The SYSID parameter tells Merge Clone about the environment that it is processing. You must supply an Sysid control card for all systems that you wish to process. For each IMSID that you specify, you must include every SYSID that is local to that system. And you must make each IMSID's local SYSID a remote SYSID in the other IMS systems being processed. Simply put, each IMS in this sysplex must have a remote SYSID that points to all other IMS systems local SYSIDs. There might still exist SYSIDs that are outside the sysplex.

For example, assume that your configuration consists of IMS1, IMS2, IMS3 and IMS4. IMS1, IMS2, and IMS3 reside in the same shared DASD complex and are being merged. IMS4 resides in a separate JES complex and, therefore, is not participating in the merge. The IMS systems contain the following local SYSIDs.
IMS1, IMS2, and IMS3 must each define all of their local SYSIDs to the Merge Clone program. They must also define remote SYSIDs to each of the other system’s local SYSIDs. The IOHIMSID Sysid control cards to process this example are:

IMS1 SYSID=(21,11)
IMS1 SYSID=(31,11)
IMS2 SYSID=(11,21)
IMS2 SYSID=(31,21)
IMS3 SYSID=(11,31)
IMS3 SYSID=(21,31)

In this example, IMS4 will be treated as being outside of the sysplex so any transactions routed to IMS4 will be unaffected by the Merge Clone program.

Merge Clone reports

Merge Clone produces several reports listing things such as control card input, processing exceptions, and program processing status. The reports are written to the data sets identified by the IOHLIST and IOHEXCPT DD statements.

IOHLIST reports

The IOHLIST DD statement data set contains several reports that list the control card input and the current IMS system contents.

The reports written to IOHLIST include:
- Control Statement listing. This is a listing of the input records read from file IOHIMSID and any error messages associated with this input.
- MODBLKS Extraction Services listing. This report contains the number of DATABASE, APPLICTN and TRANSACT macros currently defined in each IMS region.
- Transaction Affinity Input listing. This report lists all user-forced routed transactions.
- Data Base Sharelv(3) listing. This report lists the databases that will be set to ACCESS=UP in all IMS regions.

IOHEXCPT reports

The IOHEXCPT DD statement data set contains several reports that show the results of conflict resolution, routing analysis, and stage 1 build phases.

The reports written to IOHEXCPT include:
- Gen Definition Edit/Resolution listing. This is the conflict resolution report. It lists the discrepancies among the different members of the sysplex and identifies what options were chosen to resolve most of the conflicts.
- PSBLIB/DBDLIB ANALYSIS listing. This report identifies the conflicts and error conditions encountered while analyzing the PSBLIB and DBDLIB members.
- IMS Stage 1 Generation listing. This reports shows the progress of the IMS stage 1 macro generation as well as any error conditions.
Part 5. Troubleshooting

Use these topics to diagnose and correct problems that you experience with IMS High Performance System Generation Tools.
Chapter 15. Troubleshooting

Problem determination for IMS HP Sysgen Tools is made easier by knowing where to look for messages, dumps, and related documentation.

IMS command mode functions run in the IMS control region address space and produce WTO messages in the MVS syslog or IMS control region abends. Problem diagnosis for IMS command mode functions can be addressed in the same way that you would address other IMS control region problems or abends.

If an IMS command mode Fastgen command (/MOD PREPARE MODBLKS FASTGEN) fails because of a sysgen problem, running Fastgen in batch mode provides a listing of the messages and source statements that will help diagnose and correct any IMS sysgen or security gen source problems.

Batch utilities function as standard MVS jobs. There might be WTO messages written to the MVS syslog, as well as SYSOUT reports with error messages and dumps.

Most ISPF functions run within the TSO address space. When investigating problems with the ISPF functions, check first within the TSO user's address space. If there is a standard ISPF message issued by IMS HP Sysgen Tools, be sure to use the Help key (usually, PF1) to obtain additional information about the message. All ISPF messages have long messages (obtained by using PF1) that include an IMS HP Sysgen Tools message ID which is documented in this manual.

Other ISPF diagnostic information can be found in WTO messages that might appear in the MVS syslog or, in the event of an abend, in the SYSUDUMP or SYSABEND output of the TSO user.

IMS HP Sysgen Tools uses APPC/MVS to run functions on the MVS system where a particular IMS system is running. If an abend occurs while running in an APPC/MVS initiator, IMS HP Sysgen Tools creates an SVC dump to document the problem. When investigating an IMS HP Sysgen Tools problem, be sure to review the SVC dumps generated on the MVS system where the target IMS system is running.

APPC services

Some ISPF functions call APPC services to retrieve information from or make updates to the IMS control region control blocks. The options on the Primary Options menu that call APPC services include the following:

• 0 Setup - uses an APPC application to extract IMS control region data set names.
• 2 Edit - which creates an IMS Resource Update List.
• 3 Verify - which verifies an IMS Resource Update List.
• 4 Install - which implements an IMS Resource Update List.
• 1 VIEW - uses APPC when viewing INCORE definitions.
• 7 REVERSE - uses APPC when retrieving information for an INCORE request.
• C - IMS Command - uses APPC/MVS to route the request to the proper MVS system. If APPC/IMS is enabled, may also use APPC/IMS to issue the command.

• S Storage - uses APPC when retrieving or updating IMS storage

Resource update list functionality calls APPC services to retrieve existing resource definition information. The verify and install Resource Update List functions run primarily in APPC. This means that ISPF functions invoke APPC to schedule IMS HP Sysgen Tools code in the same MVS LPAR in which IMS is running. This allows IMS HP Sysgen Tools to access IMS control blocks even when the TSO user is logged on to another MVS LPAR.

An understanding of how APPC tasks run is helpful when searching for diagnostic information for problems in an APPC environment. APPC schedules IMS HP Sysgen Tools functions in much the same way that JES2 or JES3 schedule jobs. An APPC initiator runs the IMS HP Sysgen Tools code. In order to understand what is running in an APPC initiator, it is important to understand the IOHTPAD job that runs during customization. The following JCL exists in the IOHTPAD job:

```
//SYSIN DD DATA,DLM='QT'
```

This JCL indicates that all card images that follow, up to the statement with ‘QT’ in the first two columns, are input to the APPC utility that is run in the IOHTPAD job. This includes what appears to be a second job that is included in the IOHTPAD member. Instead of being a second job, however, this input defines to APPC the environment that must be established to run the IMS HP Sysgen Tools application code in the APPC initiator.

The job name, IOHAPPC, is used when the IMS HP Sysgen Tools code processes. This name can be seen just as any other MVS started task or job, in an MVS DA,L command or in the SDSF DA panel. If the APPC code loops, it is cancelled by issuing an MVS cancel command for job name IOHAPPC.

Note: //STEPLIB DD defines the current SIOHLINK data set. Any maintenance applied to IMS HP Sysgen Tools must be installed in this library in order to have the maintenance used in the APPC environment.

For security error messages, it might also be important to review the MVS syslog. For example, RACF resources defined in the IOHRACF job are used for validating a user’s authority to perform certain functions. If a user does not have access to a resource, the RACF violation occurs in the APPC address space on the MVS system where IMS runs, not where the TSO user is logged in.

### Message format

IOH messages have the following format:

- `IOHnnn` text

Where:

- **IOH**
  - Indicates that the message was issued by IMS HP Sysgen Tools.

- `nnn`
  - Is the message identification number. This number is either 3 or 4 digits long.

- `x`
  - Indicates the severity of the message as follows:
I  Information message
W  Warning message
E  Error message.
S  Severe error message.

Message Variables
In the message text, there can be lowercase variables (for example, xxx...). The variables represent values when the message appears, such as:
• Data in a data set
• A return code
• An error code

Message Documentation
In addition to message number and message text, information for each message includes the following:

Explanation:
Explains what the message means, why it appears and its cause.

System Action:
Tells what happened as a result of the condition that caused the message.

User Response:
Tells you how to respond to the message, and describes the effect of your response on further processing.

Severity:
A number between 2 and 16 indicating the severity of the error. The severity of warning messages is usually 2 or 4, whereas severe errors are usually severity 16.

ISPF messages
Messages issued by the IMS HP Sysgen Tools ISPF interface have the format IOHAnnnx to IOHFnnnx, with the exception noted below regarding IOHAGT004E. Note that not all messages have a severity code.

IMS sysgen messages
IOHGnnnx messages (and message IOHAGT004E) are issued by the IMS sysgen process, and correspond to IMS message numbers when IOH is removed. For example, IOHG942 corresponds to IMS message G942.

Merge clone return codes
The Merge Clone program will end with one of four possible return codes. The higher the return code value, the more severe the error. The following illustrates how each return code value should be handled:

Return Code 0.
No errors were detected.

Return Code 4.
Discrepancies were encountered but none were considered severe enough
to stop program execution. After the program completes, an analysis of the IOHEXCPT output listings as well as the IMS stage 1 macros might be in order.

Return Code 8.
Program ran to normal completion, all stage 1 members were generated but manual editing of the stage 1 macros is required before an IMS sysgen can be run. An analysis of the IOHEXCPT output as well as the IMS stage 1 macros might also be in order.

Return Code 12.
A critical error was encountered that forced immediate program termination. No stage 1 macros were created. Analyze the output reports and correct any error conditions.

Abend codes

**U4021**
Explanation: A fatal error occurred. See the output produced by the batch execution of an IMS HP Sysgen Tools for an explanation of the reason for the abend. If this abend occurs in the online system, messages will be written to the JES log of the IMS control region address space describing the reason for the failure.
System action: The abend ends the address space.
User response: Investigate messages describing the reason for the abend.

**IOH006E** BDLI FAILED FOR MEMBER

Explanation: BDLI could not find the IMS nucleus member of RESLIB (member name mm...mmmm). The indicated return code is the return code from the BDLI macro.
System action: Processing fails
User response: Verify that the proper IMS RESLIB data set and the proper IMS nucleus suffix are being used.
Severity: In a batch environment, the job abends with a U4022 code. In an ISPF environment, the function fails.

**IOH004E** BDLI FAILED FOR MEMBER

Explanation: An MVS FIND macro failed when attempting to find the IMS nucleus member of RESLIB (member name mm...mmmm). The indicated return code is the return code from the FIND macro.
System action: Processing fails
User response: Verify that the proper IMS RESLIB data set and the proper IMS nucleus suffix are being used.
Severity: In a batch environment, the job abends with a U4022 code. In an ISPF environment, the function fails.

**IOH005E** FIND FAILED FOR MEMBER

Explanation: An MVSPOINT macro failed when attempting to point within the IMS nucleus member of RESLIB (member name mm...mmmm). The indicated return code is the return code from the POINT macro.
System action: Processing fails
User response: Verify that the proper IMS RESLIB data set and the proper IMS nucleus suffix are being used.
Severity: In a batch environment, the job abends with a U4022 code. In an ISPF environment, the function fails.
User response: Verify that the proper IMS RESLIB data set and the proper IMS nucleus suffix are being used.

Severity: In a batch environment, the job abends with a U4022 code. In an ISPF environment, the function fails.

IOH101S INVALID PARM PASSED TO IOHCBMG

Explanation: An internal error occurred
System action: The sysgen fails. In batch mode, the job abends and produces a dump. In online mode, the /MODIFY request is canceled.
User response: Contact IBM Software Support for assistance.
Severity: Abend U4021

IOH111S INVALID PARM PASSED TO xxxxxxxx

Explanation: An internal error occurred
System action: The sysgen fails. In batch mode, the job abends and produces a dump. In online mode, the /MODIFY request is canceled.
User response: Contact IBM Software Support for assistance.
Severity: Abend U4021

IOH112S IMSGEN MACRO SUFFIX (a) DOES NOT MATCH THE IMS ONLINE SUFFIX (b)

Explanation: An online IMS sysgen request specified a SUFFIX= value on the IMSGEN macro that did not match the running IMS system's suffix as specified in the DFSPBxxxx member of PROCLIB.
System action: The /MODIFY command fails.
User response: Verify that the proper IMSGEN macro and values are being included in the IMS sysgen input. Correct the inconsistency by changing the IMSGEN macro or the running IMS system's suffix.
Severity: None. This error only occurs in an online request.

IOH113S MULTIPLE SPECIFICATIONS OF xxxxxxxx MACRO

Explanation: Multiple IMSCTRL or IMSGEN macros were encountered in the specified IMS sysgen source. Only one occurrence of each of these macros is permitted.
System action: The sysgen fails. In batch mode, the job ends with the condition code below. In online mode, the /MODIFY request is canceled.

User response: Correct the IMS sysgen input to include only one occurrence of the macro specified in the error message text.
Severity: 16

IOH121S INVALID PARM PASSED TO IOHDDIR

Explanation: An internal error occurred
System action: The sysgen fails. In batch mode, the job abends and produces a dump. In online mode, the /MODIFY request is canceled.
User response: Contact IBM Software Support for assistance.
Severity: Abend U4021

IOH131S PARM FIELD REQUIRED FOR KEYWORD TARGET=

Explanation: The DBD name included in the message was specified more than once in the IMS sysgen input.
System action: The sysgen fails. In batch mode, the job ends with the specified condition code. In online mode, the /MODIFY request is canceled.
User response: Review the IOHPxxxx member of the PROCLIB DD statement (where “xxxx” is either the online system’s IMSID or SUFFIX= parameter of the batch job step PARM= field.
Severity: 16

IOH132S INVALID KEYWORD IN PARM FIELD

Explanation: The PARM= value specified in the invocation of IOHFGEN (on the EXEC JCL statement or TSO CALL statement) was not valid.
System action: The sysgen fails. The job ends with the specified condition code.
User response: Review the PARM passed to program IOHFGEN. It should specify SUFFIX= (a 1-4 character member name suffix for IOHPxxxx) and TARGET= (which can be S, I, A, and/or B).
Severity: 16

IOH133S INVALID VALUE IN PARM FIELD FOR KEYWORD aaaaaaaaa

Explanation: The PARM= on the EXEC JCL statement or TSO CALL statement specified an invalid value for the keyword noted in the message. SUFFIX= specifies a 1-4 character member name suffix. TARGET= specifies the target libraries (which can be S, I, A, and/or B).
System action: The sysgen fails. The job ends with the specified condition code.
User response: Review the value specified for the...
User response: To eliminate the abend, remove the OPTIONS control card from the member.

Severity: 16

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**IOH135E**

**FASTGEN PROCESS TERMINATED DUE TO IMS SYSGEN ERROR(S)**

Explanation: Prior errors encountered cause the IMS sysgen to fail.

System action: The job ends with the specified condition code.

User response: When encountered in batch mode, review the output to find the cause of the errors, and correct the problem. When encountered in online mode, review the JES log of the IMS control region to identify possible Fast Sysgen system errors or run the utility in batch mode to identify the IMS sysgen source statements in error.

Severity: 16

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**IOH136E**

**FASTGEN PROCESS TERMINATED DUE TO MODULE LINK ERROR(S)**

Explanation: Errors encountered cause the IMS sysgen to fail. See detailed output of the Fast Sysgen process to determine if any updates were implemented in the requested target libraries.

System action: The job ends with the specified condition code.

User response: When encountered in batch mode, review the output to find the cause of the errors, and correct the problem. When encountered in online mode, review the JES log of the IMS control region to identify possible Fast Sysgen system errors or run the utility in batch mode to identify the cause of the error.

Severity: 16

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**IOH137S**

**ABEND REQUESTED BY IOHP* PARAMETER MEMBER OPTIONS STATEMENT**

Explanation: The OPTIONS statement in the Fast Sysgen control card member specifies ABEND=YES.

System action: The job abnormally ends.

User response: Review the value specified in the PARM field of the Fastgen job step EXEC card for the value of the IMSID= keyword. It exceeds the
maximum length of 4 characters.

Severity: 8

IOH142E IMSID WAS NOT SPECIFIED AND REQUIRED DD STATEMENT ddname WAS NOT SPECIFIED

Explanation: The Fastgen job step did not include the specified DD statement and could not be dynamically allocated because the IMSID= keyword was not specified in the EXEC card PARM field.

System action: The job fails.

User response: Either add the specified DD statement, or add the IMSID= keyword to the Fastgen job step PARM field so that IMS HP Sysgen Tools can dynamically allocate the required DD statement.

Severity: 8

IOH151E MISSING KEYWORD TABLE FOR MACRO aaaaaaaa

Explanation: An error was encountered processing the internal keyword table for the specified macro.

System action: The job ends with the specified condition code.

User response: Contact IBM Software Support for assistance.

Severity: 16

IOH152E INVALID MACRO NAME/OPCODE - aaaaaaaa

Explanation: An invalid or unsupported opcode was found in the IMS stage 1 source.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH153E INVALID KEYWORD FOR MACRO mmmmmmmmmm - kkkkkkk

Explanation: An unidentified keyword was found on the specified macro statement.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH154E KEYWORD SPECIFIED EXCEEDS 8 CHARACTERS

Explanation: A keyword specified in the IMS stage 1 source was longer than 8 characters.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH155E DUPLICATE SPECIFICATION OF KEYWORD aaaaaaaa

Explanation: The specified keyword was included more than once on a macro invocation.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH156E UNBALANCED QUOTE MARKS

Explanation: A statement with a value that included quotes (') had unbalanced quotes.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH157E INVALID SYNTAX (OPEN PAREN IN MID-WORD)

Explanation: An open parenthesis was found without a preceding blank or comma.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH158E UNBALANCED PARENTHESIS

Explanation: An open parenthesis was found without a matching close parenthesis.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16
IOH159E  VALUE SPECIFIED FOR KEYWORD xxxxxxxx EXCEEDS 8 CHARS

Explanation: The value specified for the indicated keyword exceeds 8 characters. The maximum length for specification of this keyword is 8 characters.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH160E  TOO MANY VALUES SPECIFIED FOR KEYWORD aaaaaaaaa

Explanation: The indicated keyword had more values specified than are valid.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH161E  POSITIONAL PARAMETER IS FOLLOWED BY “)”

Explanation: A positional parameter contained or was followed by an open or close parenthesis or an equal sign.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH162E  NO COMMA FOLLOWING “)”

Explanation: The statement in error contained a close parenthesis that was not followed by either a blank or a comma.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: N/A

IOH163E  SYNTAX ERROR

Explanation: The statement in error was unable to complete parsing due to an unidentified syntax error. This might be caused by previous errors for the same statement.

System action: The job ends with the specified condition code.

User response: If there are other errors for this statement, correct the other identified errors. If this error occurs without obvious reason or other errors, contact IBM Software Support for assistance.

Severity: 8

User response: If there are other errors for this statement, correct the other identified errors. If this error occurs without obvious reason or other errors, contact IBM Software Support for assistance.

Severity: 16

IOH164E  UNMATCHED QUOTES

Explanation: A statement with a value that included quotes (‘) had unbalanced quotes.

System action: The job ends with the specified condition code.

User response: Review the statement in error and correct the problem.

Severity: 16

IOH165E  UNSUPPORTED IMS RELEASE

Explanation: The IMS release identifier in the modify work area extension was not valid.

System action: The job ends with the specified condition code.

User response: Contact IBM Software Support for assistance.

Severity: 16

IOH166E  MSNAME STMTS MISSING-SYSID CHECKING BYPASSED

Explanation: The IMS sysgen source did not include MSC link definitions. But, transactions were present in the sysgen source which included sysid= specifications.

System action: The request fails. Syntax checking continues, although IMS HP Sysgen Tools is unable to verify transaction sysid specifications.

User response: Ensure that the MSNAME macros are included in the IMS sysgen source.

Severity: N/A

IOH172E  INVALID VALUE SPECIFIED FOR KEYWORD name

Explanation: The $IOHGEN statement that was flagged in error contains an invalid value for the named keyword.

System action: Syntax checking for the statement fails, but syntax checking continues for the next sysgen source statement.

User response: Verify that the value specified for the named keyword is valid, and correct any invalid values.

Severity: 8
IOH173E  REQUIRED KEYWORD NOT SPECIFIED (AGN OR RELOAD REQUIRED)

Explanation: The $IOHGEN statement that was flagged in error is missing a required keyword. Either the RELOAD or AGN= keyword is required.

System action: Syntax checking for the statement fails, but syntax checking continues for the next sysgen source statement.

User response: Check the syntax of the $IOHGEN statement to ensure that you have specified either the RELOAD keyword or the AGN= keyword.

Severity: 8

IOH174E  REQUIRED KEYWORD NOT SPECIFIED

Explanation: The $IOHGEN statement that was flagged in error is missing a required keyword. The missing keyword (or list of possible keywords) is included in the message.

System action: Syntax checking for the statement fails, but syntax checking continues for the next sysgen source statement.

User response: Check the syntax of the $IOHGEN statement to ensure that you have specified all required keywords for the form of the $IOHGEN statement being used.

Severity: N/A

IOH175E  INVALID COMBINATION OF KEYWORDS SPECIFIED

Explanation: The $IOHGEN statement that was flagged in error includes an invalid keyword for this form of the $IOHGEN statement. The conflicting keywords are specified in the message text.

System action: Syntax checking for the statement fails, but syntax checking continues for the next sysgen source statement.

User response: Check the syntax of the $IOHGEN statement to ensure that you have specified only the keywords permitted for the form of the $IOHGEN statement being used.

Severity: U4021 abend code.

IOH176E  INVALID KEYWORD SPECIFIED FOR type STATEMENT keyword

Explanation: The $IOHGEN statement that was flagged in error includes an invalid keyword for this form of the $IOHGEN statement. The type of $IOHGEN statement (either RELOAD or AGN) and the unexpected keyword name are specified in the message text.

System action: The IMS control region abends.

Severity: 0

IOH181I  IMS HP SYSGEN /MOD PREPARE FASTGEN CMD NOT AVAILABLE WHEN xxx IS ACTIVE

Explanation: Your environment is not compatible with the /MOD PREPARE FASTGEN command. The message indicates whether Global Online Change (GOC) or Dynamic Resource Definition (DRD) is the incompatible feature in use.

System action: The /MOD PREPARE FASTGEN command is ignored.

User response: Use a resource update list to change IMS system definitions.

Severity: N/A

IOH185E  LOAD FAILED FOR aaaaaaa RC=nnnn ABCODE=cccc

Explanation: A load for the specified module name failed. Had the condition not been intercepted, the result would have been an abend with abend code cccc reason code nnnn.

System action: The batch job or IMS control region abends.

User response: Verify that the STEPLIB concatenation is correct for batch processing or that the IMS control region STEPLIB concatenation is correct.

Severity: U4021 abend code.

IOH187E  DELETE FAILED FOR aaaaaaaa RC=nnnn

Explanation: An attempted delete of a module failed with the indicated return code.

System action: Processing continues.

User response: Review the JES log of the job that encountered the error for indications of the problem. Contact IBM Software Support for assistance.

Severity: 0

IOH188S  SCD ADDRESS RECEIVED BY IOHINIT IS INVALID

Explanation: DFSXCI0 passed an invalid SCD address to IOHINIT.

System action: The IMS control region abends.
User response:  Contact IBM Software Support for assistance.

Severity: The IMS control region abends with a U4021 abend code.

IOH189S  DFSVC000 LOADED FROM STEPLIB IS INVALID

Explanation: Module DFSVC000 is not valid.

System action: The batch job abends.

User response: Verify that the STEPLIB concatenation for the job does not contain any data sets with module name DFSVC000 other than the RESLIB data set. If an IMS sysgen was done recently, verify that the sysgen was successful.

Severity: U4021 abend code

IOH190S  UNSUPPORTED IMS RELEASE

Explanation: An unsupported release of IMS/ESA® was found in module DFSVC000.

System action: The job abends.

User response: Verify that the IMS RESLIB in the STEPLIB concatenation contains a supported release of IMS. Upgrade the IMS Sysgen Tool if the release is not supported.

Severity: U4021 abend code

IOH192E  LOAD FAILED FOR aaaaaaaaa RC=nnnn ABCODE=aaaaa

Explanation: A load for the specified module name failed. Had the condition not been intercepted, the result would have been an abend with abend code cccc reason code mmm.

System action: The batch job or IMS control region abends.

User response: Verify that the STEPLIB concatenation is correct for a batch execution or that the IMS control region STEPLIB concatenation is correct.

Severity: U4021 abend code

IOH202S  FIND FAILED FOR aaaaaaaaa MEMBER bbbbbbbb

Explanation: An attempt was made to locate the specified member name in the DDNAME specified. The request was unsuccessful.

System action: The batch job abends. In an online environment, the Fast Sysgen request fails.

User response: Verify that the COPY statement or the member name specified on the IMSGEN or SECGEN MEMBER= keyword exists in the library or libraries specified for the gen source.

Severity: U4021 abend code

IOH205S  INVALID PARM PASSED TO IOHIOS00

Explanation: An internal error occurred in IOHIOS00.

System action: The batch job abends. In an online environment, the Fast Sysgen request fails.

User response: Contact IBM Software Support for assistance.

Severity: U4021 abend code

IOH206E  INTERNAL ERROR - INVALID OPEN REQUEST

Explanation: An internal error occurred in IOHIOS00.

System action: The batch job abends. In an online environment, the Fast Sysgen request fails.

User response: Contact IBM Software Support for assistance.

Severity: U4021 abend code

IOH207E  INTERNAL ERROR - INVALID GET REQUEST

Explanation: An internal error occurred in IOHIOS00.

System action: The batch job abends. In an online environment, the Fast Sysgen request fails.

User response: Contact IBM Software Support for assistance.

Severity: U4021 abend code

IOH208E  MISSING OPCODE - STMT IGNORED

Explanation: An internal error occurred in IOHIOS00.

System action: The batch job abends. In an online environment, the Fast Sysgen request fails.

User response: Contact IBM Software Support for assistance.

Severity: U4021 abend code

IOH209E  INTERNAL ERROR - INVALID LENGTH

Explanation: An internal parsing error occurred in IOHIOS00.

System action: The batch job abends. In an online environment, the Fast Sysgen request fails.

User response: Contact IBM Software Support for assistance.

Severity: U4021 abend code
IOH210E  INTERNAL PARM ERROR - GENTYPE NOT SPECIFIED

Explanation: An internal error occurred in IOHIOS00.
System action: The batch job abends. In an online environment, the Fast Sysgen request fails.
User response: Contact IBM Software Support for assistance.
Severity: U4021 abend code.

IOH211E  OPCODE EXCEEDS 8 CHARACTERS - STMT IGNORED

Explanation: An internal error occurred in IOHIOS00.
System action: The batch job abends. In an online environment, the Fast Sysgen request fails.
User response: Contact IBM Software Support for assistance.
Severity: U4021 abend code.

IOH212E  BEGIN TO CONTINUE COLUMNS NOT BLANK

Explanation: A macro statement was continued (as indicated by a non-blank character in column 72), but the first 15 columns on the following statement were not blank.
System action: The statement is ignored.
User response: Review the macro statement in error and correct the problem.
Severity: 16

IOH213E  TITLE MUST HAVE A SINGLE OPERAND ENCLOSED IN QUOTES

Explanation: A TITLE statement was encountered containing more than one operand or whose operand was not enclosed in quotes.
System action: The statement is ignored.
User response: Review the macro statement in error and correct the problem.
Severity: 16

IOH214E  TITLE VALUE EXCEEDS 100 BYTES

Explanation: A TITLE statement with title text exceeding 100 bytes was encountered.
System action: The statement is ignored.
User response: Reduce the length of the title text to less than 100 bytes.
Severity: 16

IOH215E  LABEL TOO LONG (EXCEEDS 63 CHARACTERS)

Explanation: A control statement had a label beginning in column 1 that exceeded 63 characters in length.
System action: The statement is ignored.
User response: Reduce the length of the label to less than 63 characters.
Severity: 16

IOH216E  TOO MANY CONTINUATION CARDS (EXCEEDS 10 CARDS)

Explanation: A single macro statement was composed of more than 10 source lines (or exceeded the maximum length available for a single macro statement - approximately 720 characters).
System action: The statement is ignored.
User response: Review the source macro that caused the error. Reduce the number of text lines comprising the macro or reduce the entire length of the macro statement by eliminating parameters with default values.
Severity: 16

IOH217E  UNMATCHED QUOTE

Explanation: A macro statement with a quoted value did not have an ending quote.
System action: The statement is ignored.
User response: Review the macro statement in error and correct the problem.
Severity: 16

IOH218E  TOO MANY NESTED COPY STATEMENTS (EXCEEDS 10)

Explanation: The number of active (open) COPY members exceeded the limit of 10. Fast Sysgen has a limit of 10 nested COPY levels.
System action: The COPY statement is ignored.
User response: Restructure the source code to reduce the number of nested COPY statements.
Severity: 16

IOH219E  COPY OPERAND EXCEEDS 8 CHARACTERS

Explanation: A COPY statement specified a member name of more than 8 characters.
System action: The statement is ignored.
User response: Review the macro statement in error and correct the problem.

Severity: 16

**IOH220E**  
RECURSIVE COPY MEMBER REQUESTED

Explanation: A COPY statement was included in a COPIED member that referred back to a member already open. This would result in an endless loop of COPY members.

System action: The statement is ignored.

User response: Review the COPY statements included in the gen source, and correct the COPY statements to prevent a recursive COPY.

Severity: 16

**IOH221E**  
COPY STATEMENT FOUND IN SEQUENTIAL INPUT

Explanation: A COPY statement was included in a COPIED member that referred back to a member already open. This would result in an endless loop of COPY members.

System action: The Fast Sysgen process ends.

User response: Review the COPY statements included in the gen source, and remove COPY statements or make the input a PDS member.

Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

**IOH222E**  
WARNING - CONTINUED STATEMENT DOES NOT END WITH A COMMA

Explanation: An input line had a non-blank continuation character, indicating that the statement is continued, but the statement does not end with a comma. While this is valid syntax, it might indicate that a comma is missing.

System action: The remainder of the macro statement is treated as comments.

User response: Verify that the continued statement is coded correctly.

Severity: 2.

**IOH223E**  
COPY STATEMENT INVALID IN PROCLIB MEMBER

Explanation: While processing member IOHPimid in the IMS PROCLIB DD, a COPY statement was encountered. COPY statements are not permitted in the IOHPimid member of PROCLIB.

System action: The Fast Sysgen process ends.

User response: Remove any COPY statements from the IOHPimid member of PROCLIB.

Severity: The /MODIFY command is canceled.

**IOH231I**  
**.newInstance** WAITING FOR DATASET `dsn

Explanation: Jobname jjjjj is waiting for an enqueue or reserve for an output data set. The data set name (dsn) and volume serial (volser) are indicated in the message.

System action: The job waits for the holder of the resource to release control.

User response: If the wait continues, investigate which job is holding the resource required. For example, a batch Fast Sysgen that requests an update to the active MODBLKS/MATRIX data sets will encounter this problem.

Severity: 0

**IOH234S**  
STOW FAILED FOR MEMBER `aaaaaaa

Explanation: A STOW request for the indicated member and DDNAME failed. The return code and subcode issued by the STOW macro appear in the message.

System action: The Fast Sysgen process ends.

User response: Review storage available in the address space which experienced the problem. Because this storage is below the 16M line, ensure that sufficient region is available.

Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

**IOH235E**  
`ffffffff FOR COMPRESS WORK AREA FAILED RC=`rc

Explanation: A GETMAIN or FREEMAIN, as specified in the message, failed when attempting to access below the line storage for a work area to be used to perform a compress of a MODBLKS or MATRIX data set.

System action: The Fast Sysgen process ends.

User response: Review storage available in the address space which experienced the problem. Because this storage is below the 16M line, ensure that sufficient region is available.

Severity: If the error occurs in a batch job, the job abends. In an IMS or ISPF environment, the requested function fails.
IOH236S  NOTE MACRO FAILED FOR DDNAME aaaaaaaa RC=nn
Explanation: A NOTE macro request for the indicated DDNAME failed. The return code from NOTE appears in the message.
System action: The Fast Sysgen process ends.
User response: Review the JES log of the failing job for other messages relating to the indicated DDNAME. Review the JCL for proper specification of the indicated DDNAME.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

IOH237S  INVALID PARAMETER PASSED TO IOHLMOD
Explanation: An internal error occurred passing a parameter to module IOHLMOD.
System action: The Fast Sysgen process ends.
User response: Contact IBM Software Support for assistance.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

IOH238S  MODULE SIZE REQUESTED NOT DOUBLEWORD ALIGNED
Explanation: An internal error occurred related to the size of the module to be written.
System action: The Fast Sysgen process ends.
User response: Contact IBM Software Support for assistance.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

IOH239S  ERROR PARSING MODSTAT RECORD
Explanation: An error occurred while interpreting the information in the MODSTAT data set.
System action: The Fast Sysgen process ends.
User response: Verify that the MODSTAT data set contains valid information. If the MODSTAT record is valid, contact IBM Software Support. Save a copy of the MODSTAT data set record for review by IBM Software Support.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

IOH240S  aaaaaaaa ERROR FOR bbbbbbbb RC=nn
Explanation: An ENQ or RESERVE macro for QNAME bbbbbbbb failed with the indicated return code.
System action: The Fast Sysgen process ends.
User response: Contact IBM Software Support for assistance.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

IOH241S  DFSOC001 ENQUEUE FAILED FOR dsn
Explanation: The online IMS control region issued an ENQ for the indicated data set. The ENQ would have resulted in the IMS control region waiting for exclusive use of the resource.
System action: The Fast Sysgen process ends to prevent the IMS control region from waiting for the resource.
Severity: The Fast Sysgen request is canceled.

IOH242S  UNABLE TO LOCATE TIOT ENTRY FOR DDNAME aaaaaaaa
Explanation: The specified DDNAME was not found in the TIOT.
System action: The Fast Sysgen process ends.
User response: Ensure that the indicated DDNAME is included in the JCL for the failing address space.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

IOH243S  SWAREQ FAILED RC=nn
Explanation: An SWAREQ macro failed with the indicated return code.
System action: The Fast Sysgen process ends.
User response: Contact IBM Software Support for assistance.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the command is canceled.

IOH244W  WARNING - ALL xxxxxxxx DATASETS DO NOT HAVE THE SAME BLKSIZE
Explanation: The 3 data sets (staging, A, and B) of the type indicated by the message do not all have the same block size.
System action: The smallest block size is used for all the indicated data sets.
User response: All MATRIX data sets and all MODBLKS data sets should have the same block size. Relocate the data sets to specify the same block size for all 3 data sets.
Severity: 0

IOH245E ERROR PROCESSING RELOCATABLE ADDRESSES
Explanation: An internal error occurred processing the AGN matrix table.
System action: The Fast Sysgen process ends.
User response: Contact IBM Software Support for assistance.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the /MODIFY command fails.

IOH246E ABEND Saaa RCrr DDNAME dddddddd - SYSGEN ABORTED
Explanation: An abend was intercepted during an I/O operation for the indicated DDNAME.
System action: The Fast Sysgen process ends.
User response: Review the JES log of the failing job for other messages relating to the indicated DDNAME. For D37 or E37 abend codes, review the space available in the indicated data set and compress the data set as required.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the /MODIFY command fails.

IOH247E TASK NOT APF AUTHORIZED - UNABLE TO COMPRESS OUTPUT LIBRARY
Explanation: IMS HP Sysgen Tools was unable to automatically compress the output library because the job step task was not running APF authorized.
System action: Processing fails because output to the MODBLKS or MATRIX library which experienced the D37 or E37 abend, could not continue without compressing the library.
User response: None.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the /MODIFY command fails.

IOH248E SPACE ABEND RECURRED AFTER OUTPUT LIBRARY WAS COMPRESSED
Explanation: HP Sysgen compressed the library that experienced the D37/E37 abend, but the abend reoccurred.
System action: Processing fails because output to the MODBLKS or MATRIX library which experienced the D37 or E37 abend, could not continue.
User response: Review space allocation for the library that experienced the D347 or E37 abend, and ensure that sufficient space is available.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the /MODIFY command fails.

IOH249E COMPRESS FAILED - ATTACH TO IEBCOPY FAILED RC=rr COMPRESS FAILED - IEBCOPY RETURN CODE rc
Explanation: HP Sysgen compressed the library that experienced the D37/E37 abend, but the abend reoccurred.
System action: Processing fails because output to the MODBLKS or MATRIX library which experienced the D37 or E37 abend, could not continue without compressing the library.
User response: Review the return code/abend code and any messages in the MVS SYSLOG to determine the cause of the IEBCOPY failure. Contact IBM Software Support for assistance.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the /MODIFY command fails.

IOH250I COMPRESS SUCCESSFUL DDNAME
Explanation: HP Sysgen compressed the library that experienced a D37/E37 abend. HP Sysgen retries the output processing that was in progress at the time of the abend.
System action: None.
User response: None.
Severity: 0

IOH251S aaaaaaa FAILED FOR bbbbbbbbb STORAGE RC=nn
Explanation: A storage request for I/O related storage failed with the indicated return code. aaaaaaaa indicates whether a GETMAIN or FREEMAIN. bbbbbbbbb indicates the storage use - either DCB, DSNENT, or BUFFER.
System action: The function fails. In a batch environment, the job abends. In an online environment, the /MODIFY command fails.
User response: Contact IBM Software Support for assistance.
Severity: For batch jobs, a U4021 abend occurs. For online Fast Sysgen requests, the /MODIFY command fails.

IOH252E ERROR - reason
Explanation: An error occurred processing the Fast Sysgen control statements. As indicated in the message, either an invalid OPCODE (i.e., IMSGEN or SECGEN) or an invalid keyword (i.e., DDNAME= or MEMBER=) was encountered.
System action: The Fast Sysgen process ends.
User response: Review the Fast Sysgen control statements in the IOHPxxx member of the PROCLIB DD and correct the problem.
Severity: 16

IOH262E  KEYWORD VALUE FOR kkkkkkk reason
Explanation: The indicated keyword specified a value that was either missing, invalid, or too long, as indicated in the error message text.
System action: The Fast Sysgen process ends.
User response: Review the Fast Sysgen control statements in the IOHPxxx member of the PROCLIB DD and correct the problem.
Severity: 16

IOH263E  MULTIPLE SPECIFICATIONS OF PARM aaaaaaaa
Explanation: The indicated parameter was already specified - either on this statement or a prior statement.
System action: The Fastgen process ends.
User response: Review the Fast Sysgen control statements in the IOHPxxx member of the PROCLIB DD and correct the problem. There should be only one occurrence of each type of statement (i.e., IMGEN, SECGEN) in the control statement member.
Severity: 16

IOH264E  DD NAME AND DSN KEYWORDS ARE MUTUALLY EXCLUSIVE
Explanation: Both the DD name and DSN keyword were specified. Only one of these keywords is permitted on an IMGEN or SECGEN statement.
System action: The Fastgen process ends.
User response: Remove one of the keyword specifications from the statement.
Severity: 16

IOH265E  CLOSE PAREN WITHOUT MATCHING OPEN PAREN
Explanation: The value for a keyword began with an open parenthesis, but no close parenthesis was found by the end of the statement.
System action: The Fastgen process ends.
User response: Review the parenthesis specified on the statement.
Severity: 16

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IOH270E  SOURCE DATA SETS HAVE INCONSISTENT DSORG

Explanation: Concatenated data sets do not all have the same data set organization. Some are sequential (PS), and some are PDS(PO).

System action: The Fastgen process ends.

User response: Verify the data set names specified in the IOHPXXXX member in order to ensure that all data sets in a concatenation have the same data set organization.

Severity: 16.

IOH271S INVALID PARM PASSED TO IOHPDIR

Explanation: An internal error occurred due to an invalid parameter being passed to module IOHPDIR.

System action: The Fast Sysgen process ends.

User response: Contact IBM Software Support for assistance.

Severity: A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

IOH272E TRANSTAT= KEYWORD INVALID PRIOR TO IMS V10

Explanation: IMS sysgen source for an IMS system prior to IMS version 10.1 includes an APPLCTN macro with the TRANSTAT keyword. This keyword is not supported prior to IMS V10.1.

System action: Processing continues.

User response: Ensure that you are trying to generate an IMS system for the proper release of IMS, which is determined by which IMS RESLIB that you are using. If the intended IMS system is earlier than IMS version 10.1, remove any TRANSTAT= keywords from the IMS sysgen source.

Severity: 8

IOH281S INVALID PARM PASSED TO IOHSDIR

Explanation: An internal error occurred due to an invalid parameter being passed to module IOHSDIR.

System action: The Fast Sysgen process ends.

User response: Contact IBM Software Support for assistance.

Severity: A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

IOH282E IMODULE GETMAIN FAILED FOR IOHDSNDI RC=nn

Explanation: An IMS IMODULE GETMAIN failed.

System action: The request fails.

User response: Ensure that the IMS control region has sufficient virtual storage to getmain 2 KB of above the 16 MB line storage. Contact IBM Software Support for assistance.

Severity: N/A

IOH291S INVALID PARM PASSED TO IOHSDIR

Explanation: An internal error occurred due to an invalid parameter being passed to module IOHSDIR.

System action: The Fast Sysgen process ends.

User response: Contact IBM Software Support for assistance.

Severity: A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

IOH301E ERROR BUILDING DFSAGT00 MATRIX

Explanation: An internal error occurred building the AGN matrix tables.

System action: The Fast Sysgen process ends.

User response: Contact IBM Software Support for assistance.

Severity: A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

IOH311E INVALID LABEL IN COLUMN 1 - STMT IGNORED

Explanation: The only valid characters that can appear starting in column 1 are a blank or a close parenthesis followed by an open parenthesis followed by a blank.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Reduce the number of AGN names in the security gen source.

Severity: 16

IOH312E LOGIC ERROR IN IOHSECB

Explanation: An internal error occurred processing the security control statements.

System action: The Fast Sysgen process ends.
**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

---

**IOH313E**  
**Explanation:** The opcode on the preceding statement is not currently valid (either the opcode is spelled wrong or is out of sequence).

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

---

**IOH314E**  
**Explanation:** A required operand for the preceding statement was not specified.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

---

**IOH315E**  
**Explanation:** A control record - one with a "(" label - had no data records associated with it.

**System action:** Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

---

**IOH316E**  
**Explanation:** A data record - one without a ")" label - was encountered before a control record.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

---

**IOH317E**  
**Explanation:** The resource specified on the preceding statement was not defined in this system.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

---

**IOH318E**  
**Explanation:** A transaction name specified on a security gen statement is a Fast Path transaction, and therefore is not valid.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

---

**IOH319E**  
**Explanation:** The command specified is not eligible for AOI command processing, and therefore the TCOMMAND statement.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

---

**IOH320E**  
**Explanation:** An internal storage management error occurred processing the security control statements.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.
### IOH321E - SPECIFIED PTERM NUMBER ID INVALID

**Explanation:** The specified PTERM number is invalid.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

### IOH322E - REDUNDANT SIGN / STERM COMMAND

**Explanation:** A "STERM ALL" statement was encountered along with a "STERM name" statement.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Remove either the STERM ALL statement or all other STERM statements.

**Severity:** 16

### IOH323E - OPERAND EXCEEDS MAXIMUM VALID LENGTH

**Explanation:** A resource name specified in the previous security statement exceeds the maximum allowable length for that type of resource. This is typically 8 characters, or 11 for an IMS command name.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

### IOH324E - OPERAND CONTAINS INVALID CHARACTERS

**Explanation:** The specified operand contained invalid special characters.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

### IOH325E - TCOMMAND * NOT PERMITTED ON CONTROL STMT

**Explanation:** A "( TCOMMAND "" statement was encountered. To use TCOMMAND *, the CTRAN statement must be the control statement (the one with the backwards parenthesis).

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

### IOH326E - INVALID IPAGE ADDRESS

**Explanation:** An internal storage management error occurred processing the security control statements.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

### IOH327E - INVALID ROW OFFSET CALCULATED

**Explanation:** An internal error occurred processing the security control statements.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

### IOH328E - DUPLICATE AGN NAME SPECIFIED

**Explanation:** An AGNAME control statement was encountered that specified an AGN name already in use.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

### IOH329E - IMBEDED PSB, TRAN OR LTERM NAME=ALL

**Explanation:** An AGNAME control statement was followed by both specific resource names and an ALL resource name. If a resource of ALL is specified, no
other resources of that type might be specified for that AGN.

**System action:** The statement is ignored. Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the security gen source, and correct the error.

**Severity:** 16

---

**IOH341E** ROW REDUCTION IPAGE ERROR

**Explanation:** An internal error occurred performing matrix row reduction.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

---

**IOH342E** TCOMMAND IPAGE ERROR

**Explanation:** An internal error occurred creating the TCOMMAND matrix tables.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

---

**IOH351I** MORE THAN 65535 LTERMS DEFINED. TERMINAL, PASSWORD AND SIGNON MATRICES WILL NOT BE USABLE.

**Explanation:** This message is issued as a warning that the number of defined LTERMs makes generation of matrix tables for the identified matrices impossible.

**System action:** None.

**User response:** None.

**Severity:** 0

---

**IOH352I** MORE THAN 65535 DATABASES DEFINED. PASSWORD MATRIX WILL NOT BE USABLE.

**Explanation:** This message is issued as a warning that the number of defined databases makes generation of matrix tables for the above matrices impossible.

**System action:** None.

**User response:** None.

**Severity:** 0

---

**IOH353I** MORE THAN 65535 PROGRAM SPECIFICATION BLOCKS DEFINED. PASSWORD MATRIX WILL NOT BE USABLE.

**Explanation:** This message is issued as a warning that the number of defined programs makes generation of matrix tables for the above matrices impossible.

**System action:** None.

**User response:** None.

**Severity:** 0

---

**IOH354I** MORE THAN 65535 TRANSACTION NAMES DEFINED. TERMINAL, PASSWORD AND TRANCMD MATRICES WILL NOT BE USABLE.

**Explanation:** This message is issued as a warning that the number of defined transactions makes generation of matrix tables for the above matrices impossible.

**System action:** None.

**User response:** None.

**Severity:** 0

---

**IOH361S** INVALID PARM PASSED TO IOHSTMG

**Explanation:** An internal error occurred due to an invalid parameter being passed to IOHSTMG.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

---

**IOH362S** GETMAIN FAILED FOR aaaaaaaaa RC=nn

**Explanation:** A GETMAIN failed for the identified module name. The return code from the GETMAIN macro is shown.

**System action:** The Fast Sysgen process ends.

**User response:** Almost all Fast Sysgen storage is obtained above the 16M line, with the exception of some DCB and other I/O related control blocks. Verify that the amount of storage above the 16M line (extended private) is reasonable for the number of resources being generated. Message IEF374I in the JES messages for the job indicates the amount of private area (VIRT) and extended private area (EXT) used by the job. Increasing the region size to 32M or more might resolve the problem.

**Severity:** A batch job receives a U4021 abend. In an
Online environment, the Fast Sysgen request is canceled.

**IOH363W** FREEMAIN FAILED FOR aaaaaaaaa
RC=nn

**Explanation:** An error occurred freeing storage for the named module. The FREEMAIN macro return code is also indicated.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

**IOH364S** IMODULE GETMAIN FAILED FOR aaaaaaaaa RC=nn

**Explanation:** An IMS IMODULE GETMAIN function for the named module failed with the indicated return code.

**System action:** The Fast Sysgen process ends.

**User response:** Almost all Fast Sysgen storage is obtained above the 16M line, with the exception of some DCB and other I/O related control blocks. Verify that the amount of storage above the 16M line (extended private) is reasonable for the number of resources being generated. Message IEF374I in the JES messages for the job indicates the amount of private area (VIRT) and extended private area (EXT) used by the job. Increasing the region size to 32M or more might resolve the problem.

**Severity:** In an online environment, the Fast Sysgen request is canceled.

**IOH365W** IMODULE FREEMAIN FAILED FOR aaaaaaaaa RC=nn

**Explanation:** An IMS IMODULE FREEMAIN failed for the named module with the indicated return code.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** In an online environment, the Fast Sysgen request is canceled.

**IOH366S** LOAD FAILED FOR aaaaaaaaa RC=nn

**Explanation:** A LOAD for the named module failed with the indicated return code.

**System action:** The Fast Sysgen process ends.

**User response:** Verify that the named module exists in the job’s STEPLIB concatenation.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

**IOH367S** IMODULE LOAD FAILED FOR aaaaaaaaa
RC=nn

**Explanation:** An IMS IMODULE LOAD for the named module failed with the indicated return code.

**System action:** The Fast Sysgen process ends.

**User response:** Verify that the named module exists in the job’s STEPLIB concatenation.

**Severity:** In an online environment, the Fast Sysgen request is canceled.

**IOH368W** DELETE FAILED FOR aaaaaaaaa RC=nn

**Explanation:** A DELETE macro failed for the named module with the indicated return code.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.

**IOH369W** IMODULE DELETE FAILED FOR aaaaaaaaa RC=nn

**Explanation:** An IMS IMODULE DELETE failed for the named module with the indicated return code.

**System action:** The Fast Sysgen process ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** In an online environment, the Fast Sysgen request is canceled.

**IOH370S** MAXIMUM IPAGES EXCEEDED FOR MODULE aaaaaaaaa

**Explanation:** The maximum number of IPAGEs of storage was used for the named module. The maximum number of IPAGEs is 999.

**System action:** The Fast Sysgen process ends.

**User response:** Verify that the named module exists in the job’s STEPLIB concatenation.

**Severity:** A batch job receives a U4021 abend. In an online environment, the Fast Sysgen request is canceled.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
<th>Severity</th>
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</thead>
<tbody>
<tr>
<td>IOH371S</td>
<td>IPAGE MODULE NAME ERROR - ate</td>
<td>An internal error occurred while creating an IPAGE module.</td>
<td>The Fast Sysgen process ends.</td>
<td>Contact IBM Software Support for assistance.</td>
<td></td>
</tr>
<tr>
<td>IOH381E</td>
<td>LOAD FAILED FOR xxxxxxxx RC=rrrr ABCODE=aaaa</td>
<td>A LOAD for the named module failed with the indicated return code and abend code.</td>
<td>The Fast Sysgen process ends.</td>
<td>Verify that the named module exists in the job's STEPLIB concatenation.</td>
<td></td>
</tr>
<tr>
<td>IOH382E</td>
<td>FIND SCD FAILED IN IOHPPUE0</td>
<td>The partner product initialization exit was unable to locate the SCD for this IMS subsystem.</td>
<td>The IMS control region abends with a U4021 abend.</td>
<td>Contact IBM Software Support for assistance.</td>
<td></td>
</tr>
<tr>
<td>IOH383E</td>
<td>INVOKING USER SPECIFIED DFSPPUE0 EXIT ROUTINE XXXXXXX</td>
<td>IMS HP Sysgen initialization is invoking the specified DFSPPUE0 exit routine as requested on a DFSPPUE0 statement in the IOHP parameter member of proclib.</td>
<td>None.</td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>IOH384E</td>
<td>CONTROL CARD SYNTAX ERROR – UNMATCHED PARENS</td>
<td>A DFSPPUE0 statement in the IOHP parameter member of proclib contains an unmatched open or close parenthesis.</td>
<td>The remainder of the statement is ignored.</td>
<td>Review the DFSPPUE0 statements in the IOHP parameter member of proclib. Ensure that each statement has the proper parenthesis in the proper order.</td>
<td></td>
</tr>
<tr>
<td>IOH385E</td>
<td>MODULE NAME EXCEEDS 8 CHARACTERS</td>
<td>A DFSPPUE0 statement in the IOHP parameter member of proclib included a module name that was longer than 8 characters.</td>
<td>The module name is ignored.</td>
<td>Ensure that the module names included in the DFSPPUE0 NAME= specification are properly specified.</td>
<td></td>
</tr>
<tr>
<td>IOH386E</td>
<td>LOAD FOR USER SPECIFIED DFSPPUE0 EXIT ROUTINE MMMMMMM FAILED RC=RR ABEND=AAAA</td>
<td>The named module, as specified on a DFSPPUE0 statement, failed to load.</td>
<td>The named module is not invoked during IMS initialization.</td>
<td>Ensure the proper name was specified on the DFSPPUE0 statement and that the module is available to the IMS control region.</td>
<td></td>
</tr>
<tr>
<td>IOH387E</td>
<td>IMS CTL RGN ABEND U4021 DUE TO INITIALIZATION ERROR IN IOHPPUE0</td>
<td>IMS High Performance System Generation Tools initialization failed.</td>
<td>The IMS control region abends.</td>
<td>Investigate prior IOH messages to</td>
<td></td>
</tr>
</tbody>
</table>
determine the cause of the initialization failure.

**IOH389W**  IOHPPUE0 INVOKED MORE THAN ONCE - BYPASSING INITIALIZATION

**Explanation:** The Fastgen partner product initialization exit was called twice during IMS restart.

**System action:** The second call to initialize is ignored because Fastgen was already initialized.

**User response:** This message causes no problems, but indicates that another user of the IMS partner product initialization exit called IOHPPUE0. The message goes away when another PPUE0 exit is updated to not call Fastgen's exit a second time.

**Severity:** None.

**IOH390E**  CSVQUERY FAILED RC=XX

**Explanation:** A CSVQUERY request from the partner product initialization exit received an unexpected return code.

**System action:** Fastgen initialization continues. Problems might occur if the PPUE0 exit is called more than once during IMS restart processing.

**User response:** Contact IBM Software Support to report the incident.

**Severity:** None.

**IOH391S**  IMODULE LOCATE FOR IOHMWX FAILED RC=rrrr

**Explanation:** IOHICLV0 attempted to find module IOHMWX. An IMODULE LOCATE failed to locate the module.

**System action:** The IMS control region abends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** Abend code U4021.

**IOH392S**  VERIFICATION FAILED FOR MODULE IOHMWX

**Explanation:** Validation of control block IOHMWX failed. IMS control region execution is unable to continue.

**System action:** The IMS control region abends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** Abend code U4021.

**IOH393E**  PARSE OF COMMAND FAILED - /MODIFY COMMAND ABORTED

**Explanation:** The IMS Sysgen Tool attempted to parse a /MODIFY command to determine if the FASTGEN keyword was specified. The parsing process failed.

**System action:** The /MODIFY command is rejected.

**User response:** Contact IBM Software Support for assistance.

**Severity:** None.

**IOH394E**  FASTGEN PROCESS TERMINATED DUE TO IMS SYSGEN ERROR(S)

**Explanation:** An online request for a Fast Sysgen failed due to errors encountered in the IMS stage 1 processing.

**System action:** The /MODIFY command is canceled.

**User response:** Run the same process in batch mode to identify the source of the errors and correct them.

**Severity:** None.

**IOH395E**  FASTGEN PROCESS TERMINATED DUE TO MODULE LINK ERROR(S)

**Explanation:** An online request for a Fast Sysgen failed due to errors encountered in control block module link edit processing.

**System action:** The /MODIFY command is canceled.

**User response:** Some errors are written to the JES log of the IMS control region address space. Check if any error messages indicate the reason for the failure. If not, run the same process in batch mode to identify the source of the errors and correct them.

**Severity:** None.

**IOH396E**  STORAGE CLEANUP EXPERIENCED AN ERROR FREEING STORAGE

**Explanation:** Cleanup processing following Fast Sysgen processing experienced an error.

**System action:** None.

**User response:** Contact IBM Software Support for assistance.

**Severity:** None.

**IOH397E**  FASTGEN PROCESS TERMINATED DUE TO SECURITY GEN ERROR(S)

**Explanation:** An online request for a Fast Sysgen failed due to errors encountered in IMS security gen processing.

**System action:** The /MODIFY command is canceled.

**User response:** Some errors are written to the JES log of the IMS control region address space. Check if any error messages indicate the reason for the failure. If not, run the same process in batch mode to identify the source of the errors and correct them.

**Severity:** None.
IOH398E  GETMAIN FAILED FOR IOHSAVEA
Explanation: A GETMAIN request for subpool 0 storage above the 16M line in the IMS control region address space failed.
System action: The /MODIFY command is canceled.
User response: Ensure there is sufficient storage for 576 bytes of storage in the IMS address space. Contact IBM Software Support for assistance.
Severity: None.

IOH399W  FREEMAIN FAILED FOR IOHSAVEA
Explanation: A FREEMAIN for storage used by IMODULE IOHSAVEA failed.
System action: The /MODIFY command is canceled.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH401I  FASTGEN ONLINE INITIALIZATION COMPLETE
Explanation: The Fast Sysgen utility completed initialization during IMS control region startup.
System action: None.
User response: None.
Severity: U4021

IOH402E  UNABLE TO LOCATE CVB ENTRY FOR COMMAND INTERCEPT
Explanation: The command intercept set failed because the required CVB entry was not found.
System action: The IMS control region abends.
User response: Contact IBM Software Support for assistance.
Severity: U4021

IOH403E  IMS COMMAND PROCESSOR ADDRESS WAS NOT AVAILABLE
Explanation: The command processor address in the CVB was not available.
System action: The IMS control region abends.
User response: Contact IBM Software Support for assistance.
Severity: U4021

IOH410W  IMS HP SYSGEN DETECTED GENERIC EXITS-BYPASSING EXIT
Explanation: IMS HP Sysgen Tools detected that IMS Generic Exits for the Partner Product exit routine is active.
System action: The parameter information for IMS HP Sysgen Tools in PROCLIB member requested that another Partner Product exit routine be called by HP Sysgen. This request was bypassed because Generic Exits is active.
User response: Remove PPUE0= specifications from the IMS HP Sysgen Tools PROCLIB member if you convert to using IBM IMS Tools Generic Exits.
Severity: N/A

IOH421E  INVALID PARM PASSED TO IOHDCB
Explanation: An internal error occurred because an invalid parameter was passed to module IOHDCB.
System action: The job step abends.
User response: Contact IBM Software Support for assistance.
Severity: U4021

IOH422E  OPEN FAILED FOR type DDNAME
Explanation: An attempt to open a file failed. The message describes the DD type and DD name, as well as the return code (if there was not an abend condition) or the abend code and return code if an abend condition caused the OPEN failure.
System action: The functions fails.
User response: Review the DD type and/or DDNAME in the message text, as well as the abend code and/or return code. Also, review the MVS SYLOG for related messages, such as IEC130I DD STATEMENT MISSING, or security error messages.
Severity: 8
IOH424E  AN ERROR OCCURRED PARSING THE OLCSTAT DATA SET

Explanation: IMS HP Sysgen Tools attempted to read the OLCSTAT data set to determine the active MODBLKS data set but encountered an unexpected error while parsing the OLCSTAT data set contents.

System action: The request fails.

User response: Ensure that the OLCSTAT data set name specified is correct in the JCL (if the failing request was in a batch job) or in the IMSID options module, and that the OLCSTAT data set is not corrupted.

Severity: 8

IOH441E  UNABLE TO LOCATE FASTGEN MWX CB

Explanation: An IMODULE LOCATE call to find the IOHMWX module in IMS control region storage failed.

System action: The /DIS MODIFY command fails.

User response: Check for prior Fast Sysgen error messages to see if the cause of the problem occurred during initialization. Contact IBM Software Support for assistance.

Severity: None.

IOH442E  INVALID MWX ADDRESS RECEIVED

Explanation: Verification of the Fast Sysgen MWX control block failed.

System action: The /DIS MODIFY command fails.

User response: Check for prior Fast Sysgen error messages to see if the cause of the problem occurred during initialization. Contact IBM Software Support for assistance.

Severity: None.

IOH443E  ERROR UPDATING /DIS MODIFY STATUS INFORMATION

Explanation: Parsing and attempted update of /DIS MODIFY command output failed.

System action: The /DIS MODIFY command fails.

User response: Check for prior Fast Sysgen error messages to see if the cause of the problem occurred during initialization. Contact IBM Software Support for assistance.

Severity: None.

IOH461E  TCOMMAND UPDATE FOR TRAN name FAILED - SMB NOT FOUND

Explanation: While installing a TCOMMAND update, IMS HP Sysgen Tools was unable to locate the SMB for the transaction identified in the message text.

System action: The installation of the Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH462E  TCOMMAND MATRIX DFSISTC x NOT FOUND

Explanation: While installing a TCOMMAND update, IMS HP Sysgen Tools found that the TCOMMAND MATRIX (module DFSISTC x was not initialized.

System action: The installation of the Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH463E  TERMSEC UPDATE FAILED-type name NOT FOUND

Explanation: While installing a TERMSEC update, IMS HP Sysgen Tools was unable to locate a resource (COMMAND, LTERM, or TRANSACT as shown in the message) with the indicated name.

System action: The installation of the Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH464E  TERMSEC UPDATE FAILED-INVALID RESOURCE ID FOUND FOR LTERM name

Explanation: While installing a TERMSEC update, an invalid row number was found for the indicated IMS LTERM name. The row number in the CVB or SMB exceeded the number of rows in the MATRIX table.

System action: The installation of the Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A
IOH465E  TERMSEC UPDATE FAILED-LTERM
name ACCESS TO resource ALREADY status

Explanation: While installing a TERMSEC update, an error occurred trying to allow or disallow (as indicated in the message text) access. If the request was to allow access, the named LTERM already had access to the resource. If the request was to disallow access, the named LTERM did not have access to the resource.

System action: The installation of the Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH466E  TERMSEC UPDATE FAILED-RESOURCE name IS NOT PROTECTED

Explanation: While installing a TERMSEC update, an error occurred trying to disallow access because the resource was not protected.

System action: The installation of the requested Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH467E  TERMSEC UPDATE FAILED-# CVBS IN MATRIX INCONSISTENT WITH SCD

Explanation: While installing a TERMSEC update, an error occurred verifying the command verb block (CVB) control blocks.

System action: The installation of the requested Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH468E  AGN NAME agname NOT FOUND IN OLD MATRIX(s)

Explanation: While attempting to locate the existing AGN named in the message, the AGN was not found.

System action: The installation of the requested Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH469E  ERROR DELETING typename FROM AGN agname CODE x

Explanation: While attempting to remove the named resource from the named AGN, an error occurred.

System action: The installation of the requested Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH470E  LOAD FAILED FOR modname RC=rc ABCODE= code

Explanation: A LOAD for the specified module name failed. Had the condition not been intercepted, the result would have been an abend with abend code code, reason code rc.

System action: The requested function fails.

User response: Verify that the RESLIB DSN and IMS suffix in the IMSID options are correct.

Severity: N/A

IOH471E  TCOMMAND MATRIX ROW LENGTH INVALID-code

Explanation: The length of an IMS command row in a MATRIX module exceeded twenty bytes. This condition should not occur.

System action: The requested function fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH501E  MODULE xxxxxxxx LOADED FROM dddddddd IS NOT A VALID IMS CONTROL BLOCKS MODULE

Explanation: The compare process loaded the identified control block module from the identified DDNAME. It was determined not to be a valid IMS control block module.

System action: The job step abends.

User response: Verify that the MODBLKS data set was created with the same release of IMS that is contained in the RESLIB data set in the job STEPLIB concatenation.

Severity: U4021
IOH511S  PARM FIELD REQUIRED FOR KEYWORD SUFFIX=

Explanation: Execution of the IMS Sysgen Tool compare utility requires the SUFFIX= parameter in the PARM field of the JCL to identify the module suffix(es).

System action: The job step abends.

User response: Add or correct the PARM field.

Severity: U4021

IOH512S  INVALID KEYWORD IN PARM FIELD

Explanation: The value specified in the PARM field of the EXEC JCL statement included an undefined keyword. The PARM field for IOHCOMP must be of the form PARM='SUFFIX=n'.

System action: The job step abends.

User response: Correct the PARM field in the EXEC statement.

Severity: U4021

IOH513S  INVALID VALUE IN PARM FIELD FOR KEYWORD keyword

Explanation: The keyword that is named in the message had an invalid value specified.

System action: The job fails.

User response: Review the PARM= field in the JCL to verify that the named keyword has a valid value associated with it.

Severity: N/A

IOH514S  PARM FIELD DID NOT SPECIFY ANY SUFFIX

Explanation: There was no SUFFIX value specified in the PARM field.

System action: The job fails.

User response: Ensure that the PARM field includes the SUFFIX= keyword with at least one value.

Severity: N/A

IOH515S  UNABLE TO LOCATE TIOT ENTRY FOR DDNAME ddname

Explanation: A required DD statement was not found.

System action: The job fails.

User response: Verify that the specified DD name is included in the job's JCL.

Severity: N/A

IOH516S  SWAREQ FAILED RC=nn

Explanation: An SWAREQ macro failed with the indicated return code.

System action: The job fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH517S  OPEN FAILED FOR DDNAME ddname

Explanation: An MVS OPEN macro failed for the indicated DD name.

System action: The job fails.

User response: Verify that the DD name that is specified is present in the JCL. Check the job's JESLOG for any other error conditions that might have prevented the DD name from opening.

Severity: N/A

IOH518S  CLOSE FAILED FOR DDNAME ddname

Explanation: An MVS CLOSE macro failed for the indicated DD name.

System action: The job fails.

User response: Check the job's JESLOG for any other error messages that might be associated with the close failure.

Severity: N/A

IOH519S  DFSVC000 LOADED FROM STEPLIB IS INVALID

Explanation: Module DFSVC000 was loaded from the job's STEPLIB, but failed to pass validation. For example, the first four bytes of the module might not have been SSCD.

System action: The job fails.

User response: Verify that module DFSVC000 which is being loaded from the IMS RESLIB data set, is a valid module.

Severity: N/A

IOH521E  LOAD FAILED FOR mmmmmmmmmm RC=rrrr ABCODE=aaaaa

Explanation: A LOAD for a required module failed. The abend code and reason code are described in the message.

System action: The job step abends.

User response: Verify that the STEPLIB concatenation for the compare utility is correct.

Severity: See message.
15. Troubleshooting

IOH522E  UNSUPPORTED IMS RELEASE FOUND IN DFSVC000
Explanation: The IMS release indicated in the DFSVC000 module found in STEPLIB is not supported in this release of the IMS Sysgen Tool.
System action: The job step abends.
User response: Apply the required maintenance or upgrade the IMS Sysgen Tool.
Severity: U4021

IOH523E  EXCESSIVE NUMBER OF SUFFIX PARAMETERS SPECIFIED
Explanation: More than 40 suffix parameters were specified in the PARM field of a compare utility execution. 40 is the maximum number of suffixes permitted.
System action: The job step abends.
User response: Reduce the number of SUFFIX= parameters specified in the PARM field.
Severity: U4021

IOH524E  BLDL MACRO FAILED RC=rtrr
Explanation: A BLDL macro failed with the indicated return code.
System action: The job step abends.
User response: Contact IBM Software Support for assistance.
Severity: U4021

IOH525S  IOHPUNCH DD BLKSIZE IS NOT A MULTIPLE OF 80
Explanation: The block size of the data set specified for the IOHPUNCH DD did not have a block size that was a multiple of 80.
System action: The job step abends.
User response: Review the DD statement or data set specified for the IOHPUNCH DD. Ensure that the data set includes DCB attributes of RECFM=FB and LRECL=80.
Severity: U4021

IOH531S  BOTH MODSTAT AND OLCSTAT DDNAMES PRESENT
Explanation: Both MODSTAT and OLCSTAT data sets were found in the job step’s JCL.
System action: The JCLIN generation function fails.
User response: Identify the correct data set included in the JCLIN generator’s JCL, and change the data set name to NULLFILE. Or, remove the invalid DD from the JCL.
Severity: N/A

IOH532S  REQUIRED DDNAMES NOT PRESENT FOR MODBLKS DATA SETS
Explanation: One or more MODBLKS data sets required to run the JCLIN function were not present in the job step’s JCL.
System action: The JCLIN generation function fails.
User response: If you specified a MODSTAT or OLCSTAT data set, you are required to include both MODBLKSA and MODBLKSB DD statements with the appropriate data sets. If you did not specify either MODSTAT or OLCSTAT data sets in teh JCL, then a MODBLKS DD statement is required with the staging MODBLKS data set.
Severity: 8

IOH541E  INVALID PARM PASSED TO IOHTIME
Explanation: An internal error occurred because an invalid parameter was passed to module IOHTIME.
System action: The job step abends in batch mode or an online Fast Sysgen request is canceled.
User response: Contact IBM Software Support for assistance.
Severity: U4021

IOH542E  TIME MACRO RETURNED RC=xx
Explanation: A TIME request to MVS returned a non-zero return code. Return codes from a TIME call are documented in the MVS Assembler Services Reference manual for your release of MVS or OS/390.
System action: The job step abends in batch mode or an online Fast Sysgen request is canceled.
User response: Contact IBM Software Support for assistance.
Severity: U4021

IOH543E  MVS DATE CONVERSION ROUTINE macro RETURNED RC=rc
Explanation: The named macro, either STCKCONV or CONVTIME, returned an unexpected return code.
System action: The function fails.
User response: Review the macro named in the message and the return code issued by that macro. Contact IBM Software Support for further assistance.
Severity: N/A
IOH561E • IOH569E

IOH561E PRINT WAS ATTEMPTED BEFORE OPEN

Explanation: A call to print a message was made before print functionality was available.

System action: The job step abends in batch mode or an online Fast Sysgen request is canceled.

User response: Contact IBM Software Support for assistance.

Severity: U4021

IOH562E INVALID DD INDICATOR PASSED TO PRINT ROUTINE

Explanation: A call to print a line included an invalid indicator specifying the DDNAME for the print output.

System action: The job step abends in batch mode or an online Fast Sysgen request is canceled.

User response: Contact IBM Software Support for assistance.

Severity: U4021

IOH563E PRINT TO CURRENT DDNAME REQUESTED BUT NO GEN PROCESS WAS ACTIVE

Explanation: A request to print an input line failed because the indicator for the type of input in progress was not set properly.

System action: The job step abends in batch mode or an online Fast Sysgen request is canceled.

User response: Contact IBM Software Support for assistance.

Severity: U4021

IOH564E MESSAGE EXCEEDS 132 BYTES

Explanation: A message or header to be printed by IOHPRNT exceeded the maximum size (132 bytes).

System action: The job step abends in batch mode or an online Fast Sysgen request is canceled.

User response: Contact IBM Software Support for assistance.

Severity: U4021

IOH565E MACRO EXCEEDED 50 LINE LIMIT - ONLY FIRST 50 LINES WILL BE PRINTED

Explanation: An IMS SYSGEN macro encountered in the IMS sysgen input exceeded 50 lines, and an error occurred associated with the macro. If a separate print DD is associated with IMS SYSGEN output (based on the IMSGEN specification in the Fast Sysgen parameters), then only the first 50 lines of the macro will be printed in the error summary.

System action: The job step abends in batch mode or an online Fast Sysgen request is canceled.

User response: Review the macro that experienced the error. Reduce the number of continuation lines used to specify the macro.

Severity: U4021

IOH566E INVALID PRINT FUNCTION REQUEST BYTE

Explanation: A request to IOHPRNT specified an invalid function indicator.

System action: The job step abends in batch mode or an online Fast Sysgen request is canceled.

User response: Contact IBM Software Support for assistance.

Severity: U4021

IOH567E GETMAIN FAILED FOR MSG BUFF IN IOHPRNT


System action: The job step abends.

User response: Contact IBM Software Support for assistance.

Severity: U4021

IOH568E OPEN FAILED FOR PRINT DDNAME xxxxxxxx

Explanation: Open failed for the specified DDNAME. This DDNAME was specified in the Fast Sysgen parameters as a PRINT= value.

System action: The job step abends.

User response: Ensure that all print output DDNAMEs specified in the Fast Sysgen parameter specifications are included in the batch job’s JCL. If output is directed to a data set instead of SYSOUT, ensure that the DCB attributes are RECFM=FBA,LRECL=133.

Severity: U4021

IOH569E CLOSE FAILED FOR PRINT DDNAME dddddddd

Explanation: An MVS CLOSE macro returned with RC=04, leaving the specified print DD name open.

System action: The job step abends.

User response: Review the MVS SYSLOG for any
additional error messages related to this DD name. Contact IBM Software Support for assistance.

Severity: U4021

IOH570E  REQUESTED MESSAGE LENGTH EXCEEDS MAX LENGTH

Explanation: A message or header to be printed by IOHPRNT exceeded the maximum size (132 bytes).

System action: In batch mode, the job step abends. For online Fast Sysgen requests, the command is canceled.

User response: Contact IBM Software Support for assistance.

Severity: U4021

IOH1500E  IOHIMSID DD STATEMENT MISSING

Explanation: The DD statement for the IOH input data set, IOHIMSID, is not present in the JCL. This is a required data set.

System action: The job step ends with a return code 12.

User response: Correct the JCL and rerun the job.

Severity: 12

IOH1501E  - UNABLE TO OPEN DD NAME IOHIMSID

Explanation: An error occurred when attempting to open the data set IOHIMSID.

System action: The job step ends with a return code 12.

User response: Correct the JCL and rerun the job.

Severity: 12

IOH1520E  - IMSID MUST START IN COLUMN 1

Explanation: An invalid record was read from the IOHIMSID input. Column 1 must contain either the first character of the IMSID or an asterisk (*).

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1521E  - INVALID IMSID, MUST BE BLANK AFTER IMSID

Explanation: An invalid record was read from the IOHIMSID input. The IMSID must start in column 1 and occupy the first 4 bytes. Column 5 must be a blank and the parameter must start at or after byte 6.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1522E  - IMSID MORE THAN FOUR BYTES LONG

Explanation: An invalid record was read from the IOHIMSID input. The IMSID must start in column 1 and occupy the first 4 bytes. Column 5 must be a blank and the parameters must start at or after byte 6.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1523E  - MORE IMSID ENTRIES THAN SUPPORTED

Explanation: The Merge Clone tool supports merging up to 64 IMS systems. The IOHIMSID input contained more than 64 different IMS ID records.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1524E  - PARAMETER REQUIRED BUT NONE SUPPLIED

Explanation: The previous IOHIMSID input record contained what was believed to be a valid IMSID, but the record was missing all parameter information.

IOHIMSID input parameters must end by byte 72.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1525E  - INVALID PARAMETER ENCOUNTERED

Explanation: The previous IOHIMSID input record contained what was believed to be a valid IMSID, but it also contained an invalid parameter name.

IOHIMSID input parameters must end by byte 72.

System action: The job step ends with a return code 12.
**IOH1526E • IOH1533E**

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

**IOH1526E - NOT ENOUGH BYTES IN RECORD FOR VALID SUFFIX**

Explanation: The previous IOHIMSID input record reached an end of record condition before a valid parameter was found.

IOHIMSID input parameters must end by byte 72.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

**IOH1527E - NO VALUE SUPPLIED FOR SUFFIX PARAMETER**

Explanation: The previous IOHIMSID input record did not contain a valid suffix value. The Merge Clone tool needs to know the IMS gen suffix to determine which MODBLKS data set members to load.

IOHIMSID input parameters must end by byte 72.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

**IOH1528E - NOT ENOUGH BYTES IN RECORD FOR VALID VERSION**

Explanation: The previous IOHIMSID input record reached an end of record condition before a valid parameter was found.

IOHIMSID input parameters must end by byte 72.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

**IOH1529E - NO VALUE SUPPLIED FOR VERSION KEYWORD**

Explanation: The previous IOHIMSID input record did not contain a valid IMS version. The Merge Clone tool needs to know the IMS version so it knows which IOH module to use to read the MODBLKS data set.

IOHIMSID input parameters must end by byte 72.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

**IOH1530E - UNSUPPORTED IMS VERSION SPECIFIED**

Explanation: The previous IOHIMSID input record contains either an invalid version number or a version of IMS that is not supported by this release of the Merge Clone tool.

IOHIMSID input parameters must end by byte 72.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

**IOH1531E - REQUIRED PARAMETERS OMITTED**

Explanation: The previous IOHIMSID input record did not contain a valid parameter.

IOHIMSID input parameters must end by byte 72.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

**IOH1532E - SYNTAX ERROR, OPENING PAREN NOT PRESENT**

Explanation: The previous IOHIMSID input record contained invalid syntax. The syntax for the SYSID parameter is “SYSID=(a,b)”, where a is the remote SYSID and b is the local SYSID. Both a and b must be numeric values.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

**IOH1533E - SYNTAX ERROR, NON-NUMERIC CHARACTER ENCOUNTERED**

Explanation: The previous IOHIMSID input record encountered a non-numeric value in the SYSID. The syntax for the SYSID parameter is “SYSID=(a,b)”, where a is the remote SYSID and b is the local SYSID. Both a and b must be numeric values.

System action: The job step ends with a return code 12.
User response: Correct the IOHIMSID input, and rerun the job.
Severity: 12

IOH1534E - END OF RECORD REACHED BEFORE VALID SYSID FOUND
Explanation: The previous IOHIMSID input record did not contain a valid SYSID parameter. The syntax for the SYSID parameter is "SYSID=(a,b)", where a is the remote SYSID and b is the local SYSID.
IOHIMSID input parameters must end by byte 72.
System action: The job step ends with a return code 12.
User response: Correct the IOHIMSID input, and rerun the job.
Severity: 12

IOH1535E - SYNTAX ERROR, VALID SYSID NOT FOUND
Explanation: The previous IOHIMSID input record did not contain a valid SYSID parameter. The syntax for the SYSID parameter is "SYSID=(a,b)", where a is the remote SYSID and b is the local SYSID.
System action: The job step ends with a return code 12.
User response: Correct the IOHIMSID input, and rerun the job.
Severity: 12

IOH1536E - SYNTAX ERROR, TOO MANY DIGITS IN SYSID
Explanation: The previous IOHIMSID input record contained an invalid SYSID value. Both the remote and local SYSID values might contain up to 4 digits. Valid values for the SYSID's are from 1 to 255 for IMS 5.1 and from 1 to 2055 for IMS 6.1 and higher.
System action: The job step ends with a return code 12.
User response: Correct the IOHIMSID input, and rerun the job.
Severity: 12

IOH1537E - SYSID GREATER THAN MAXIMUM VALUE (2055)
Explanation: The previous IOHIMSID input record contained an invalid SYSID. The maximum value allowed for a SYSID is 2055.
System action: The job step ends with a return code 12.
User response: Correct the IOHIMSID, and rerun the job.
Severity: 12

IOH1538E - INVALID SYSID, MUST BE GREATER THAN 0
Explanation: The previous IOHIMSID input record contained an invalid SYSID value. The minimum value allowed for a SYSID is 1.
System action: The job step ends with a return code 12.
User response: Correct the IOHIMSID input, and rerun the job.
Severity: 12

IOH1539E - SYNTAX ERROR, Padding BYTE NOT BLANK
Explanation: The previous IOHIMSID input record was invalid. The byte after the closing parenthesis must be a blank.
System action: The job step ends with a return code 12.
User response: Correct the JCL, and rerun the job.
Severity: 12

IOH1540E - MORE THAN 512 SYSID PAIRS DEFINED
Explanation: A table overflow condition has been encountered. A single IMS can have a maximum of 512 SYSID pairs.
System action: The job step ends with a return code 12.
User response: Ensure all of the SYSID pairs coded for each IMS are necessary. Remove any unnecessary SYSID pairs and rerun the job.
If all SYSID pairs are required, contact IBM Software Support for assistance.
Severity: 12

IOH1550E - NO VALID IMS SECTIONS FOUND
Explanation: After all records have been read from IOHIMSID, there are no valid IMS system records.
System action: The job step ends with a return code 12.
User response: Correct the IOHIMSID, and rerun the job.
Severity: 12
IOH1551E - SYSID nnnn DEFINED AS LOCAL IN MULTIPLE SYSTEMS

Explanation: Each IMS being merged must have unique local SYSID's. SYSID nnnn was defined as local to multiple systems.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1552E - VERSION REQUIRED BUT NOT SPECIFIED FOR: insid

Explanation: The IMS version must be supplied for each IMS being merged. IMS insid did not have a valid version supplied.

The Merge Clone tool needs to know the IMS version in order to call the proper routine to read the IMS MODBLKS data set.

System action: The job step ends with a return code 12.

User response: Supply a valid version for each IMS, and rerun the job.

Severity: 12

IOH1553E - SUFFIX REQUIRED BUT NOT SPECIFIED FOR: insid

Explanation: An IMS gen suffix must be supplied for each IMS being merged. IMS insid did not have a valid version supplied.

The Merge Clone tool needs to know the IMS Gen suffix in order to load the proper members from the IMS MODBLKS data set.

System action: The job step ends with a return code 12.

User response: Supply a valid suffix for each IMS, and rerun the job.

Severity: 12

IOH1554E - AT LEAST ONE SYSID PAIR REQUIRED BUT NONE SPECIFIED FOR: insid

Explanation: A valid SYSID pair must be supplied for each IMS being merged. IMS insid did not have a valid SYSID pair. The Merge Clone tool needs a SYSID pair so it can build the SYSID parameters on the transaction definitions.

System action: The job step ends with a return code 12.

User response: Provide all valid SYSID pairs for each IMS being merged.

Severity: 12

IOH1555E - MORE THAN ONE IMS REQUIRED

Explanation: In order to perform a merge of IMS systems, there must be more than one IMS.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1556E - ERROR ENCOUNTERED IN REMOTE SYSID TABLE

Explanation: An error has been detected in the IMS MSC cross reference checking. Check for prior error messages in the IOHLIST output.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1557E - insid1 DOES NOT HAVE ANY LINKS TO insid2

Explanation: In order to build the correct SYSID definitions on the IMS transactions, each IMS must have a SYSID pair that points to each IMS system being merged. In this case, insid1 did not have any SYSID pairs that pointed to insid2.

System action: The job step ends with a return code 12.

User response: Correct the IOHIMSID input, and rerun the job.

Severity: 12

IOH1600W - ** TRANSACTION tran ON IMS insid HAD PROGRAM CHANGED FROM pgm1 TO pgm2

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS insid. The program to which tran was assigned was changed from pgm1 to pgm2.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues and a return code of 4 is set. If a more severe error is encountered, the return code for that error will be used.

User response: Review the IMS gen and, if desired,
update the definition before running the IMS gen.

Severity: 4

---

**IOH1601W** - **TRANSACTION tran ON IMS imsid WAS CHANGED FROM REMOTE OUTSIDE THE PLEX TO LOCAL**

Explanation: A definition conflict existed for transaction `tran`. Transaction `tran` was defined local on at least one system in the Plex and remote on `imsid`. Since it was local on one system, it is changed to local in all systems.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues and a return code of 4 is set. If a more severe error is encountered, the return code for that error will be used.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 4

---

**IOH1602I** - **TRANSACTION tran ON IMS imsid CHANGED TO MULTSEG**

Explanation: A definition conflict existed for transaction `tran`. Transaction `tran` was defined MULTSEG on at least one system in the Plex, so it was changed to MULTSEG on all systems.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

**IOH1603I** - **TRANSACTION tran ON IMS imsid CHANGED TO NONRESPONSE**

Explanation: A definition conflict existed for transaction `tran`. The definition for `tran` was changed on IMS `imsid`. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

**IOH1604I** - **TRANSACTION tran ON IMS imsid CHANGED TO RESPONSE**

Explanation: A definition conflict existed for transaction `tran`. The definition for `tran` was changed on IMS `imsid`. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues and a return code of 4 is set. If a more severe error is encountered, the return code for that error will be used.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 4

---

**IOH1605I** - **TRANSACTION tran ON IMS imsid CHANGED TO CONVERSATIONAL**

Explanation: A definition conflict existed for transaction `tran`. The transaction was defined conversational on at least one system, so it was defined changed to conversational on `imsid`.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

**IOH1606I** - **TRANSACTION tran ON IMS imsid CHANGED TO EDIT=ULC**

Explanation: A definition conflict existed for transaction `tran`. The definition for `tran` was changed on IMS `imsid`. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

**IOH1607I** - **TRANSACTION tran ON IMS imsid CHANGED TO EDIT=UC**

Explanation: A definition conflict existed for transaction `tran`. The definition for `tran` was changed on IMS `imsid`. The conflict was resolved using the default

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---
transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1608I - TRANSACTION tran ON IMS insid CHANGED TO MODE=MULT

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS insid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1609I - TRANSACTION tran ON IMS insid CHANGED TO MODE=SNGL

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS insid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1610I - TRANSACTION tran ON IMS insid CHANGED TO DCLWA=NO

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS insid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1611I - TRANSACTION tran ON IMS insid CHANGED TO DCLWA=YES

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS insid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1612I - TRANSACTION tran ON IMS insid CHANGED TO ROUTING=NO

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS insid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1613I - TRANSACTION tran ON IMS insid CHANGED TO ROUTING=YES

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS insid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1614I - TRANSACTION tran ON IMS insid CHANGED TO NOT A WFI

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS insid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0
transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.
User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.
Severity: 0

IOH1615I - TRANSACTION tran ON IMS imsid CHANGED TO WFI

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.
User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.
Severity: 0

IOH1616I - TRANSACTION tran ON IMS imsid CHANGED TO SCHD=on

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.
User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.
Severity: 0

IOH1617I - TRANSACTION tran ON IMS imsid CHANGED TO INQ=NO

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.
User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.
Severity: 0

IOH1618I - TRANSACTION tran ON IMS imsid CHANGED TO RECOVER

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.
User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.
Severity: 0

IOH1619I - TRANSACTION tran ON IMS imsid CHANGED TO SERIAL=NO

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.
User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.
Severity: 0

IOH1620I - TRANSACTION tran ON IMS imsid CHANGED TO SERIAL=YES

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.
User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.
Severity: 0

IOH1621I - TRANSACTION tran ON IMS imsid CHANGED FROM FPATH (POTENTIAL/EXCLUSIVE) TO FPATH=NO

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.
User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.
Severity: 0
IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1622I - TRANSACTION tran ON IMS imsid
CHANGED TO FPATH=YES
(POTENTIAL)

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1623I - TRANSACTION tran ON IMS imsid
CHANGED TO FPATH=YES
(EXCLUSIVE)

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1624W - ** TRANSACTION tran ON IMS imsid
DEFINED WITH TRANSACTION EDIT ROUTINE

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. Transaction tran was defined on at least one IMS as using a Transaction Edit Routine, so all systems will now use the Transaction Edit Routine.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1625I - ** TRANSACTION tran ON IMS imsid
CHANGED TO CLASS n

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1626I - ** TRANSACTION tran ON IMS imsid
CHANGED TO SPA xxxxx

Explanation: A definition conflict existed for transaction tran. The definition for tran was changed on IMS imsid. The conflict was resolved using the default transaction definition selected by the IOH "Default Option Selection Routine".

Valid values for xxxxx are STRUNC or RTRUNC.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues.

User response: Review the IMS gen and, if desired, update the definition before running the IMS gen.

Severity: 0

---

IOH1627I TRANSACTION tran ON IMS imsid
CHANGED TO AOI=value

Explanation: A definition conflict existed for the named transaction. The definition for tran was changed on IMS imsid. The conflict was resolved by using the default transaction definition that was selected by the IOH Default Option Selection Routine. Refer to
"Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if needed, update the definition before you run the IMS gen.

**Severity:** N/A

---

**IOH1628I**  TRANSACTION xxxxxxx ON IMS yyyyy
CHANGED TO TRANSTAT=z

**Explanation:** Definition conflict existed for the named transaction. The definition for tran was changed on IMSID yyyyy. The conflict was resolved by using the default transaction definition that was selected by the IOH default option selection routine. Refer to "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if needed, update the definition before you run the IMS gen.

**Severity:** N/A

---

**IOH1630I** - APPLCTN psb ON IMS imsid
CHANGED TO RESIDENT

**Explanation:** A definition conflict existed for Applctn psb. The definition for psb was changed on IMS imsid. If the Applctn was defined as Resident on any IMS system, it is defined that way in all IMS systems.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 0

---

**IOH1631I** - APPLCTN psb ON IMS imsid
HAD GPSB REMOVED

**Explanation:** A definition conflict existed for Applctn psb. The definition for psb was changed on IMS imsid. At least one IMS system in the Plex had the same named PSB defined as a non-GPSB and PSBLIB contained a member with the same name as psb.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 0

---

**IOH1632I** - APPLCTN psb ON IMS imsid
CHANGED TO PARALLEL

**Explanation:** A definition conflict existed for APPLCTN psb. The definition for psb was changed on IMS imsid. If the APPLCTN was defined as PARALLEL on any IMS system, it is defined that way in all IMS systems.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 0

---

**IOH1634I** - APPLCTN psb ON IMS imsid
HAD GPSB REMOVED

**Explanation:** A definition conflict existed for Applctn psb. The definition for psb was changed on IMS imsid. At least one IMS system in the Plex had the same named PSB defined as a non-GPSB and PSBLIB contained a member with the same name as psb.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 0

---

**IOH1636W** - APPLCTN psb ON IMS imsid
IS NOW GENNED AS FPATH=NO

**Explanation:** A definition conflict existed for Applctn psb. The definition for psb was changed on IMS imsid. The conflict was resolved using the default transaction definition selected using the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues with a return code 4 set. If a more severe error is encountered, that return code will be used at program termination.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 4

---

**IOH1636W** - APPLCTN psb ON IMS imsid
IS NOW GENNED AS FPATH=nnn

**Explanation:** A definition conflict existed for Applctn psb. The definition for psb was changed on IMS imsid. The conflict was resolved using the default transaction definition selected using the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues with a return code 4 set. If a more severe error is encountered, that return code will be used at program termination.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 4

---

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definition selected using the IOH "Default Option Selection Routine".

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues with a return code 4 set. If a more severe error is encountered, that return code will be used at program termination.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 4

---

**IOH1637I** - APPLCTN psb ON IMS insid CHANGED TO PGMTYPE=TP

**Explanation:** A definition conflict existed for Applctn psb. The definition for psb was changed on IMS insid. If the Applctn was defined as TP in any IMS system, it will be defined that way in all IMS systems.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 0

---

**IOH1640I** - DATABASE dbd ON IMS insid IS NOW GENNED AS RESIDENT

**Explanation:** A definition conflict existed for database dbd. If a database is defined as Resident on any IMS system, it will be defined as Resident in all IMS systems.

See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 0

---

**IOH1641I** - DATABASE dbd ON IMS insid DEFINED WITH ACCESS=XX

**Explanation:** Database dbd was added to IMS insid and defined with ACCESS=XX.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 0

---

**IOH1699I** - NO EXCEPTIONS ENCOUNTERED

**Explanation:** IOH editing completed without encountering a definition conflict.

**System action:** Processing continues.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

---

**IOH1700E** - IOHLIST DD STATEMENT MISSING

**Explanation:** IOHLIST is a required DD statement but is not present.

**System action:** Processing ends with a return code 12.

**User response:** Correct the JCL, and rerun the job.

**Severity:** 12

---

**IOH1701E** - UNABLE TO OPEN DD IOHLIST

**Explanation:** An error was encountered attempting to open data set IOHLIST.

**System action:** Processing ends with a return code 12.

**User response:** Check the job log for additional information, correct the JCL and rerun the job.
**IOH1719E • IOH1734E**

**System action:** Processing ends with a return code 12.

**User response:** Correct the JCL/data set allocation, and rerun the job.

**Severity:** 12

---

**IOH1719E - ERROR LOADING MODULE**

**Explanation:** An error was encountered attempting to load module `mod`. This module is the Merge Clone tool’s MODBLKS extraction routine and is shipped as part of the base product.

**System action:** Processing ends with a return code 12.

**User response:** Ensure the product has been installed correctly and that this module is available to be loaded. Check the job log for additional information, correct the problem and rerun the job.

**Severity:** 12

---

**IOH1720E - REQUIRED DDNAME**

**Explanation:** Each IMS system defined through IOHIMSID input must have an associated MODBLKS data set defined in the JCL. The DD name is created by appending the IMSID to the character string ‘MBLK’. For example, IMS1 would require a DD name of MBLKIMS1 pointing to IMS1’s MODBLKS data set.

**System action:** Processing ends with a return code 12.

**User response:** Correct the JCL, and rerun the job.

**Severity:** 12

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**IOH1721E - ERROR OPENING DATA SET, DD NAME=**

**Explanation:** An error was encountered attempting to open data set `ddn`.

**System action:** Processing ends with a return code 12.

**User response:** Check the job log for additional information, correct the JCL and rerun the job.

**Severity:** 12

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**IOH1730E - SPECIFIED IMS NOT FOUND:**

**Explanation:** An input record in the IOHAFFIN data set contained an invalid IMS.

**System action:** Processing ends with a return code 12.

**User response:** Correct the job input, and rerun the job.

**Severity:** 12

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**IOH1731E - SYNTAX ERROR, COLUMN 5 MUST BE BLANK**

**Explanation:** The previous IOH AFFIN input record did not follow correct record syntax. The IMSID must start in column 1, column 5 must contain a blank and the transaction name must start in column 6.

**System action:** Processing ends with a return code 12.

**User response:** Correct IOHAFFIN input data, and rerun the job.

**Severity:** 12

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**IOH1732E - TRANSACTION NAME MORE THAN EIGHT CHARACTERS**

**Explanation:** The previous record contains an invalid transaction name. The name is greater than eight characters.

**System action:** Processing ends with a return code 12.

**User response:** Correct the IOH AFFIN input data, and rerun the job.

**Severity:** 12

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**IOH1733E - SYNTAX ERROR, TRAN NAME NOT PRESENT OR NOT STARTING IN COLUMN 6**

**Explanation:** Either the transaction name is not supplied or it does not start in column 6. The IMSID must start in column 1, column 5 must contain a blank and the transaction name must start in column 6.

**System action:** Processing ends with a return code 12.

**User response:** Correct the IOH AFFIN input data, and rerun the job.

**Severity:** 12

---

**IOH1734E - TRAN: tran NOT DEFINED IN ANY SYSTEM**

**Explanation:** Transaction `tran` was specified in an IOHAFFIN input record, but is not present in any IMS system. In order to define the transaction with the requested routing, the transaction must first be present in an existing IMS.

**System action:** Processing ends with a return code 12.

**User response:** Either remove the transaction from the IOHAFFIN input data, or add the desired transaction to one (or more) of the IMS regions being merged.

**Severity:** 12
IOH1741E - DATA BASE NAME MORE THAN EIGHT CHARACTERS
Explanation: The previous record read from IOHSHLVL contained an invalid database name. It is more than eight characters long.
System action: Processing ends with a return code 12.
User response: Correct the IOHSHLVL input, and rerun the job.
Severity: 12

IOH1742E - DATA BASE NAME MISSING OR NOT STARTING IN COLUMN 1
Explanation: The previous record read from IOHSHLVL was incorrect. Either the database name was not provided or does not start in column 1.
System action: Processing ends with a return code 12.
User response: Correct the IOHSHLVL input and rerun the job.
Severity: 12

IOH1743E - DATA BASE: dbd NOT DEFINED TO ANY IMS
Explanation: The specified database is not defined in any of the IMS regions defined in the IOHIMSID input. In order to set the database access using the IOHSHLVL input, the database must first be defined to one of the IMS regions being merged.
System action: Processing ends with a return code 12.
User response: Either remove the database from the IOHSHLVL input data or add it to one (or more) of the IMS systems being merged.
Severity: 12

IOH1751E - JOB TERMINATING, UNABLE TO LOAD MODULE IOHCNTL0
Explanation: This module is part of the Merge Clone tool product. The module must be available for this job to process successfully.
System action: Processing ends with a return code 12.
User response: Check job log for additional information, correct the problem and rerun the job.
Severity: 12

IOH1752E - JOB TERMINATING, UNABLE TO LOAD MODULE IOHEDIT0
Explanation: This module is part of the Merge Clone tool product. The module must be available for this job to process successfully.
System action: Processing ends with a return code 12.
User response: Check the job log for additional information, correct the problem and rerun the job.
Severity: 12

IOH1753E - JOB TERMINATING, UNABLE TO LOAD MODULE IOHPSBS0
Explanation: There were no user-specified transaction routing requirements. Transaction routing will be determined by the Merge Clone tool, based upon the database access and the PSB PROCOPT values.
System action: Processing ended with a return code 12.
User response: Check job log for additional information, correct the problem and rerun the job.
Severity: 12

IOH1754I - NO RECORDS IN TRANSACTION AFFINITY LIST
Explanation: There were no user-specified transaction routing requirements. Transaction routing will be determined by the Merge Clone tool, based upon the database access and the PSB PROCOPT values.
System action: Processing continues.
User response: None. This is an informational message.
Severity: 0

IOH1755I - NO RECORDS IN DATA BASE SHARELVL LIST
Explanation: There were no input records supplied in the IOHSHLVL data set. The Merge Clone tool will determine database access as described in “Conflict resolution” on page 196.
System action: Processing continues.
User response: None. This is an informational message.
Severity: 0

IOH1756E - JOB TERMINATING, UNABLE TO LOAD MODULE IOHPRPT0
Explanation: This module is part of the Merge Clone tool product. The module must be available for this job to process successfully.
System action: Processing ends with a return code 12.
User response: Check the job log for additional information, correct the problem and rerun the job.
Severity: 12
IOH1800E - ERROR LOADING MODULE mod FROM DD ddn

Explanation: An error was encountered attempting to load a module from an IMS MODBLKS data set. The last four characters of the DD name are the IMS that is being processed. The last character of the module name is obtained from the SUFFIX parameter as supplied in the IOHIMSID input data.

System action: Processing ends with a return code 12.

User response: Verify that the correct IMS MODBLKS data set names are used and that the correct IMS gen suffix was specified in the IOHIMSID input data. Correct the problem, and rerun the job.

Severity: 12

IOH1801E - BLDL FAILED FOR DDNAME xxxxxxxx

RC=nn REASON=rr

Explanation: An MVS BLDL macro was used to get module lengths for the IMS MODBLKS modules. The BLDL macro failed with the indicated return code and reason code.

System action: The function fails.

User response: Check the BLDL return code and reason code and verify that the named MODBLKS data set contains valid load modules.

Severity: 12

IOH1802E - ERROR PROCESSING MODULE mmmmmmm FROM DDNAME dddddddd

Explanation: The length of the named MODBLKS module was invalid for the version of IMS.

System action: The function fails.

User response: Verify that the named MODBLKS DDNAME contains valid IMS MODBLKS modules. Also verify that the IMS version specified in IOHIMSID input stream is specified correctly.

Severity: 12

IOH1900I - STAGE1 GENERATION STARTED

Explanation: The Merge Clone tool has started generating the IMS stage 1 source.

System action: Processing continues.

User response: None. This is an informational message.

Severity: 0

IOH1901W - ** TRANSACTION tran REQUIRES EDITING BEFORE RUNNING IMS GEN

Explanation: Transaction tran was defined on at least one IMS as using a Transaction Edit Routine so all systems will now use the Transaction Edit Routine. See "Conflict resolution" on page 196 for a description of how conflicts are resolved.

System action: Processing continues and a return code of 8 is set. If a more severe error is encountered, then a higher return code might be set at when processing ends.

User response: When receiving this message you are required to edit your stage 1 source. The Merge Clone tool cannot determine the name of the Edit Routine you had on your Transaction so it fills in the stage 1 TRANSACT macro with 8 plus signs ("++++++++").

You will need to replace all the plus signs with name valid Transaction Edit Routine name.

If adding new Transaction Edit Routines or changing the sequence of the Edit Routine in the gen, you will need to run a minimum of a CTLBLKS gen.

Severity: 8

IOH1902I - STAGE1 GENERATION COMPLETED

Explanation: The Merge Clone tool has completed generating the IMS stage 1 source.

System action: Processing continues.

User response: None. This is an informational message.

Severity: 0

IOH1903E - ERROR ENCOUNTERED DURING STOW FOR member RETURN CODE mmmmmnnn

Explanation: An error was encountered attempting to STOW the PDS member member. The return code from the STOW is indicated in mmmnnn.

System action: Processing ends with a return code 12.

User response: Check the job log for additional messages, ensure the IOHPDS is allocated as a PDS, correct the problem, and rerun the job.

Severity: 12

IOH1904I - MEMBER member HAS BEEN SAVED

Explanation: The Merge Clone tool has completed building the stage 1 for member member and written it to the IOHPDS.

System action: Processing continues.
User response: None. This is an informational message.
Severity: 0

IOH2010W  - ** DBD dbd IN PSB psb NOT FOUND, ALL RELATED TRANSACTIONS DEFINED LOCAL

Explanation: While performing routing analysis on PSB psb, the Merge Clone tool attempted to load DBD dbd. It was unable to load this DBD, so it could not complete its analysis. It therefore chose to make all transactions that use this PSB local in all IMS regions.
System action: Processing continues and return code 4 is set. If a more severe error is encountered, this job will end with a higher return code.
User response: If possible, make the DBD available to the IMS DD data set and rerun the job. Otherwise, review the IMS stage 1 and verify that the transactions using this PSB are routed properly.
Severity: 4

IOH2011W  - ** PSB psb NOT FOUND, ALL RELATED TRANSACTIONS DEFINED LOCAL

Explanation: Unable to load PSB psb and could not perform routing analysis. Therefore, the Merge Clone process defaulted to make all transactions assigned to this PSB local in all IMS regions.
System action: Processing continues and return code 4 is set. If a more severe error is encountered, this job will end with a higher return code.
User response: If possible, make the PSB available to the IMS DD data set and rerun the job. Otherwise, review the IMS stage 1 and verify that the transactions using this PSB are routed properly.
Severity: 4

IOH2012W  - ** DBD dbd REFERENCED BY PSB psb BUT NOT DEFINED IN ANY SYSTEM

Explanation: Database dbd was referenced by PSB psb, but it was not defined in any IMS region. The PSB is assumed to be NOTINIT and all transactions are made local in all IMS systems.
System action: Processing continues and return code 4 is set. If a more severe error is encountered, this job will end with a higher return code.
User response: Ensure the correct PSB is being used. Review the IMS stage 1 and verify the transactions are routed to the correct systems.
Severity: 4

IOH2013W  - ** NO SYSTEM MET PROCOPT REQUIREMENTS FOR: psb - MADE LOCAL EVERYWHERE

Explanation: Merge Clone Procopt analysis could not find an IMS where the database access for all databases met the Procopt requirements of PSB psb. Therefore, the PSB is defined as local everywhere.
System action: Processing continues and return code is set to 4. If a more severe error is encountered the job might end with a higher return code.
User response: Review the routing for all transactions associated with the PSB.
Severity: 4

IOH2014I  - APPLCTN psb ADDED AS A REMOTE PDIR

Explanation: A transaction was found that was defined to use PDIR psb, but psb was not defined as an Applctn on any IMS in the Plex. It is therefore assumed that the Applctn was defined as a remote Applctn and the Merge Clone tool will build a remote Applctn.
System action: Processing continues.
User response: Review the IMS stage 1 input and verify that the transactions for PSB psb are defined with proper routing information.
Severity: 0

IOH2015I  - ** APPLCTN psb ADDED. MAY HAVE PREVIOUSLY BEEN DEFINED AS A REMOTE PDIR.

Explanation: PSB psb was referenced in a transaction, but was not in the PDIR table. It will be added and treated as a local APPLCTN.
System action: Processing continues.
User response: Review the IMS stage 1 input and verify that the transactions for PSB psb are defined with proper routing information.
Severity: 0

IOH2016W  - ** PSB ANALYSIS ERROR, POSSIBLY NOT A PSB, NAME=psb - ALL TRANSACTIONS MADE LOCAL

Explanation: An error was encountered while attempting to analyze PSB psb. An address outside the range of the PSB was detected. This is typically the case when the module psb that was loaded from the IMS DD is a program rather than a PSB.
System action: Processing continues and return code is set to 4. If a more severe error is encountered the job might end with a higher return code.
User response: Ensure the member name psb that was loaded from the IMS DD data set is a valid PSB. If not,
correct the PSB and rerun the job. If the member is a valid PSB, contact IBM Software Support for assistance.

Severity: 4

**IOH2201E** LOAD FAILED FOR *module* *RC=rc*  
**Explanation:** An MVS LOAD for the named module failed. The LOAD return code and the abend code are shown in the message.

**System action:** The utility ends with return code 12.

**User response:** Verify that the load module named in the message is present in the STEPLIB of the batch utility job.

Severity: 12

**IOH2202E** IOHOPT BLKSIZE TOO SMALL  
**Explanation:** The block size of the IOHOPT data set was less than the required size. The IOHOPT data set should have a block size of at least 4096.

**System action:** The utility ends with return code 12.

**User response:** Reallocate the IOHOPT data set with RECFM=U and a block size of at least 4096.

Severity: 12

**IOH2203E** UNKNOWN KEYWORD SPECIFIED IN PARM FIELD  
**Explanation:** An unknown keyword or syntax error was found processing the PARM field passed to the utility on the EXEC card.

**System action:** The utility ends with return code 12.

**User response:** Review the PARM= field specified on the JCL EXEC card. The PARM field must contain only IMSID=xxxx and the keyword LIST or UPDATE, separated by a comma.

Severity: 12

**IOH2204E** KEYWORD VALUE FOR *keyword*  
**Explanation:** An error occurred parsing the PARM field specified on the JCL EXEC card. The keyword and the reason for the error are shown in the message text. The possible keywords are IMSID, LIST, or UPDATE. The conditions that may occur are MISSING, INVALID, or NOT ALLOWED.

**System action:** The utility ends with return code 8.

**User response:** Review the PARM= field specified on the JCL EXEC card. The PARM field may contain only IMSID=xxxx and the keyword LIST or UPDATE, separated by a comma. Only the IMSID keyword can have an equal sign following the keyword.

Severity: 8

**IOH2205E** *keyword* NOT INCLUDED IN PARM FIELD  
**Explanation:** Either the IMSID or the function (LIST or UPDATE) was not specified in the PARM field. The message indicates which type of keyword was not present.

**System action:** The utility ends with return code 12.

**User response:** Review the PARM= field specified on the JCL EXEC card. The PARM field must contain the IMSID=xxxx keyword and either the LIST or UPDATE keywords.

Severity: 12

**IOH2206E** MVS NOTE FAILED STORING MEMBER *member*  
**Explanation:** An MVS NOTE macro failed with an unexpected return code.

**System action:** The utility ends with return code 12.

**User response:** Review the JESLOG for the batch utility for other messages related to this problem. The return code and reason code returned during the NOTE macro are shown in the message text.

Severity: 12

**IOH2207E** IMSID OPTIONS NOT FOUND FOR IMS *imsid*  
**Explanation:** IMSID options member for the named IMSID was not found in the IOHOPT data set during a LIST request.

**System action:** The utility ends with return code 12.

**User response:** Ensure that the proper IMSID was specified in the PARM field of the batch utility, and that the appropriate IOHOPT data set name was specified.

Severity: 12

**IOH2208E** UNABLE TO SAVE *imsid* OPTIONS-IOHOPT OUT OF DIRECTORY SPACE  
**Explanation:** The IOHOPT data set was out of directory space when the utility attempted to save the updated IMSID options member in the IOHOPT data set.

**System action:** The utility ends with return code 12.

**User response:** Realocate the IOHOPT data set with more directory blocks.

Severity: 12
IOH2209E  STOW FAILED FOR imsid OPTIONS
          R15=rc  R0=reason

Explanation: An MVS STOW macro failed with an unexpected return code.
System action: The utility ends with return code 12.
User response: Review the JESLOG for the batch utility for other messages related to this problem. The return code and reason code returned during the STOW macro are shown in the message text.
Severity:  12

IOH2210E  ABEND OCCURRED WRITING imsid OPTIONS - ABEND code

Explanation: An abend was intercepted while writing the updated IMSID options member to the IOHOPT data set.
System action: The utility ends with return code 12.
User response: Review the JESLOG for the batch utility for other messages related to this problem. The abend code that would have occurred is shown in the message text.
Severity:  12

IOH2241E  SYNTAX ERROR IN PRIOR STATEMENT - MISSING =

Explanation: A syntax error occurred processing the SYSIN statements. A statement was found that did not include the equal sign (=).
System action: The utility ends with return code 8.
User response: Review the statement preceding this error message and ensure that an equal sign was placed after the keyword.
Severity:  8

IOH2242E  OPEN FAILED FOR DDNAME ddname RC=rc

Explanation: An MVS OPEN for the ddname shown in the message failed. The open return code is shown in the message text.
System action: The utility ends with return code 8.
User response: Review the JESLOG for the batch utility for other messages related to this problem. The OPEN macro return code and the DDNAME being opened are shown in the message text.
Severity:  8

IOH2243E  CLOSE FAILED FOR DDNAME ddname RC=rc

Explanation: An MVS CLOSE for the ddname shown in the message failed. The close return code is shown in the message text.
System action: The utility ends with return code 8.
User response: Review the JESLOG for the batch utility for other messages related to this problem. The CLOSE macro return code and the DDNAME being closed are shown in the message text.
Severity:  8

IOH2244E  PRIOR STATEMENT INCLUDES A COMMA BUT IS NOT ELIGIBLE FOR CONTINUATION

Explanation: A comma was encountered following the value specified for a keyword, but continuation statements are not permitted for this keyword.
System action: The utility ends with return code 8.
User response: Review the statement preceding this error message. Ensure that both the keyword and value are specified on the same line. Also ensure that the first non-blank character following the value is not a comma.
Severity:  8

IOH2245E  VALUE SPECIFIED IN PRIOR STATEMENT EXCEEDS MAXIMUM LENGTH FOR THE KEYWORD

Explanation: The length of the value specified in the prior statement is longer than the maximum length allowed for this keyword.
System action: The utility ends with return code 8.
User response: Review the statement preceding this error message to ensure that the value specified for the keyword is correct.
Severity:  8

IOH2246E  PRIOR STATEMENT INCLUDES A COMMA BUT IS NOT ELIGIBLE FOR CONTINUATION

Explanation: A comma was encountered following the value specified for a keyword, but continuation statements are not permitted for this keyword.
System action: The utility ends with return code 8.
User response: Review the statement preceding this error message. Ensure that both the keyword and value are specified on the same line. Also ensure that the first non-blank character following the value is not a comma.
Severity:  8
IOH2247E  ERROR REPOSITIONING FOR NEXT
KEYWORD VALUE
Explanation: An unexpected error occurred parsing a
continued statement.
System action: The utility abends with abend code
U4081.
User response: Contact the support center for
assistance.
Severity: 8

IOH2248E  TOO MANY SOURCE DATA SETS
WERE SPECIFIED
Explanation: The number of source data set names
specified on the preceding statement exceeds the
maximum allowed for this keyword.
System action: The utility ends with return code 8.
User response: Review the statement preceding this
error message. Ensure that no more than 30 IMS sysgen
source data set names or 10 security source data set
names were specified.
Severity: 8

IOH2249E  INVALID VALUE SPECIFIED FOR OLC
- MUST BE LOCAL OR GLOBAL
Explanation: An invalid value was specified on the
OLC= statement.
System action: The utility ends with return code 8.
User response: Review the statement preceding this
error message. Ensure that the value specified for the
OLC = keyword is either LOICAL or GLOBAL.
Severity: 8

IOH2250E  INVALID VALUE SPECIFIED FOR
DRD - MUST BE ENABLED OR
DISABLED
Explanation: An invalid value was specified for the
option DRD.
System action: The statement is ignored.
User response: Correct the value specified for DRD=
to have a value of ENABLED or DISABLED.
Severity: 12

IOH2300E  ERROR PROCESSING TRAN EDIT
ROUTINES - reason
Explanation: An error occurred while attempting to
find or process the IMS transaction edit routine table
during the transaction edit routine. The reason text in
the message assists IBM Software Support in
identifying the source of the error.

IOH3001I  This message contains an APPC error
message retrieved from the APPC error extract service. IMS HP Sysgen Tools
uses this APPC message to show the
information retrieved from APPC.
Explanation: An APPC call returned an unexpected
return code and provided the text in this error message
documentation of the problem.
System action: None.
User response: Use the APPC error information in this
message in conjunction with the information in
message IOH3002E to determine the reason for the
APPC call failure.
Severity: N/A

IOH3002E  APPC CALL TO module FAILED RC=rc
Explanation: The call for APPC services to the named
module failed. The module name might be ATBALC2
(for Allocate), ATBSEND (for Send), ATBRCVW (for
Receive), or ATBEES3 (for Error Extract).
System action: The requested function fails.
User response: Determine whether the failure was
caused by an environmental problem, such as an APPC
or VTAM problem, or by an abend in HP Sysgen code
running in the APPC address space by reviewing the
MVS SYSLOG on the systems where both the TSO user
was logged on and the system where IMS runs. For
other problems, contact IBM Software Support for
assistance.
Severity: N/A

IOH3045E  UNKNOWN ISPF MESSAGE
RECEIVED FROM APPC - msgid
Explanation: An ISPF message identifier was received
from IMS HP Sysgen Tools while it was running in an
APPC initiator, but the message ID was not a known
message.
System action: The requested function fails.
User response: Contact IBM Software Support for
assistance.
Severity: N/A

IOH3052E  ERROR RETRIEVING IMS insid
OPTIONS reason
Explanation: An error occurred attempting to read
and interpret IMSID options for the named IMSID. The
reason text describes the reason for the failure.
IOH3053E  ERROR RETRIEVING IMS OPTIONS FOR PLEX MEMBER imsid-reason

Explanation: While attempting to install a Resource Update List, the IMSIDs of all IMS subsystems in the IMS-Plex are retrieved from the OLCSTAT data set. While attempting to read and interpret the IMSID options for this IMS system, an error occurred.

System action: The requested function fails.

User response: Ensure that the named IMSID has an options module present on the MVS system where the TSO user is logged on, and that the options module is valid. This error could also occur if a group is defined with a name that begins with IOH@.

Severity: N/A

IOH3054E  EXPECTED CONFIG DATA NOT RECEIVED FOR GLOBAL ONLINE CHANGE TARGET

Explanation: An attempt to obtain a list of the IMSIDs defined in the OLCSTAT data set for a Global Online Change enabled target IMS subsystem did not return the expected information from the IMS HP Sysgen Tools APPC transaction program.

System action: The requested function fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH3055E  UNEXPECTED CONFIG DATA NOT RECEIVED FOR LOCAL ONLINE CHANGE TARGET

Explanation: Global online change configuration information was received for an IMS subsystem that was identified as a local online change enabled target IMS subsystem.

System action: The requested function fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH3056E  INSTALL SYNC POINT DATA NOT RECEIVED - code

Explanation: During an install request, expected sync point confirmation was not received.

System action: The requested function fails.

User response: Review the MVS SYSLOG where the target IMS subsystem(s) run to determine whether there are any IMS HP Sysgen Tools messages related to an APPC processing error. Such messages would begin with IOH.

Severity: N/A

IOH3061E  INVALID MESSAGE DATA RECEIVED FROM APPC ADDRESS SPACE

Explanation: An IMS HP Sysgen Tools APPC transaction program returned a message to the TSO user, but the message length was invalid.

System action: The requested function fails.

User response: Review the MVS SYSLOG where the target IMS subsystem(s) run to determine whether any IMS HP Sysgen Tools messages were issued at the time of the failure. Such messages would begin with IOH. Contact IBM Software Support for assistance.

Severity: N/A

IOH3135E  FASTGEN PROCESS TERMINATED DUE TO IMS SYSGEN ERROR(S)

Explanation: The HP Sysgen Fastgen process failed.

User response: Determine the reason for the failure by reviewing the sysgen output listings for other IOH prefixed messages.

Severity: N/A

IOH3136E  FASTGEN PROCESS TERMINATED DUE TO MODULE LINK ERROR(S)

Explanation: The HP Sysgen Fastgen process failed.

User response: Determine the reason for the failure by reviewing the sysgen output listings for other IOH prefixed messages.

Severity: N/A

IOH3138E  FASTGEN PROCESS TERMINATED DUE TO IMS SECURITY ERROR(S)

Explanation: The HP Sysgen Fastgen process failed.

User response: Determine the reason for the failure by reviewing the sysgen output listings for other IOH prefixed messages.

Severity: N/A
reviewing the sysgen output listings for other IOH prefixed messages.

Severity: N/A

IOH3201E  LOAD FAILED FOR modname RC=rc ABCODE=code

Explanation: An MVS LOAD macro failed with the indicated return code and abend code for the named load module.

System action: The job fails.

User response: Review the abend code and module name to determine the cause of the load failure. Contact IBM Software Support for assistance.

Severity: 8

IOH3202E  keyword WAS ALREADY SPECIFIED ON A PRIOR STATEMENT

Explanation: The indicated keyword statement was specified more than once in the SYSIN data stream. This keyword can only be specified one time in the SYSIN data.

System action: The job fails.

User response: Remove the additional occurrences of the named keyword.

Severity: 8

IOH3203E  UNKNOWN KEYWORD SPECIFIED

Explanation: The keyword value specified on the prior statement was not a valid keyword.

System action: The job fails.

User response: Review the SYSIN statement prior to this error message for an error. Ensure that the keyword value is spelled correctly.

Severity: 8

IOH3204E  KEYWORD VALUE FOR keyword condition

Explanation: The value specified for the named keyword was either missing or invalid.

System action: The job fails.

User response: If the value was missing, be sure to specify a value for the keyword. If the value was invalid, ensure that the value was one of the allowable values for the keyword or that the value does not exceed four characters for an IMSID or eight characters for a Resource Update List name.

Severity: 8

IOH3205E  NUMBER OF SELMBR NAMES EXCEEDS MAXIMUM (512)

Explanation: The number of SELMBR values specified in the job exceeded the maximum of 512 names.

System action: The job fails.

User response: Reduce the number of SELMBR values specified so that the number is less than 512. You can break the members into multiple jobs, or use generic member names to reduce the number of names specified in the job.

Severity: 8

IOH3206E  MISSING REQUIRED STATEMENT (LIST= IMSID= SOURCE= or CTLBLKS=)

Explanation: The IOHCLIST control cards did not include one of the required keyword statements.

System action: The job fails.

User response: Ensure that the keyword statements include all the required statements, and that valid values were specified for these keywords.

Severity: 8

IOH3207E  UNBALANCED OR INVALID PARENTHESIS SPECIFIED

Explanation: Parentheses were used improperly in the prior statement. Either there was a close parenthesis before an open parenthesis, or there were multiple open parentheses.

System action: The job fails.

User response: Review the prior control card to ensure that parentheses were used properly.

Severity: 8

IOH3208E  UNSUPPORTED IMS RELEASE

Explanation: The release of IMS currently running for the IMS subsystem identified by the IMSID= statement is not supported by this level of IMS HP Sysgen Tools.

System action: The job fails.

User response: Contact IBM Software Support for assistance.

Severity: 8

IOH3209E  IOHCLNS REPORTED A CLEANUP ERROR

Explanation: The IMS HP Sysgen Tools cleanup processor encountered an error while closing files and freeing storage.

System action: The job fails.
**User response:** Review the MVS SYSLOG for additional IOH error messages which define the error condition. Contact IBM Software Support for assistance.

**Severity:** 8

---

**IOH3214E** NO MEMBERS WERE SELECTED BY THE SELMBR VALUE(S) SPECIFIED

**Explanation:** There were no members of the IOHGEN data set selected for the SELMBR name(s) specified in the IOHCLIST control cards.

**System action:** The job fails.

**User response:** Correct the SELMBR specification(s) specified in the job. Also, ensure that the member(s) which you intended to select are present in the first and only data set in the IOHGEN DD. Concatenated PDSs are not supported.

**Severity:** 8

---

**IOH3215E** UPDATE LIST MEMBER name ALREADY EXISTS BUT REPLACE NOT SPECIFIED

**Explanation:** The specified Resource Update List name already exists in the IOHPDS data set. REPLACE was not specified.

**System action:** The job fails.

**User response:** Either change the LIST= keyword to specify a different Resource Update List member name, or include the REPLACE keyword on the LIST= statement.

**Severity:** 8

---

**IOH3216E** INVALID ERROR MESSAGE RETURNED FROM APPC PROCESSING

**Explanation:** The length of an error message returned from IMS HP Sysgen Tools APPC processing was not valid.

**System action:** The job fails.

**User response:** Contact IBM Software Support for assistance.

**Severity:** 8

---

**IOH3225E** AN INTERNAL ERROR OCCURRED WRITING IZTPUNCH

**Explanation:** An internal error occurred determining the current output block for the IZTPUNCH data set.

**System action:** The job step ends.

**User response:** Contact IBM Software Support for assistance.

**Severity:** 8

---

**IOH3226E** MISSING PARM KEYWORD (IMSID= or CTLBLKS=)

**Explanation:** Either IMSID= or CTLBLKS= was not specified, or was specified incorrectly, in the IOHBRVRS PARM field.

**System action:** The job step ends.

**User response:** Review the IOHBRVRS PARM field to ensure that both the IMSID= and CTLBLKS= keywords are included. Check for any error messages that may have occurred while parsing the PARM field.

**Severity:** 8

---

**IOH3227E** IOHPUNCH DD HAS AN INVALID BLKSIZE (NOT A MULTIPLE OF 80)

**Explanation:** The DCB attributes for the IOHPUNCH DD are invalid.

**System action:** The job step ends.

**User response:** Verify that the IOHPUNCH DD is allocated properly. It must have LRECL=80, BLKSIZE which is a multiple of 80, and RECFM=FB.

**Severity:** 8

---

**IOH3241I** OPTIONS IN USE option

**Explanation:** This message describes the options selected for this execution of the IOHCLIST utility. The options in use are based on the control cards read from the SYSIN DD.

**System action:** None.

**User response:** None.

**Severity:** N/A

---

**IOH3243I** NUMBER OF DEFINED resources number

**Explanation:** This message describes the IMS version and number of each resource type defined in the target subsystem.

**System action:** None.

**User response:** None.

**Severity:** N/A

---

**IOH3244I** IOHGEN MEMBERS SELECTED:

**Explanation:** This message describes the IMS sysgen source members of the IOHGEN DD which were selected for processing based on control card input provided by the user.

**System action:** None.

**User response:** None.

**Severity:** N/A
IOH3301E  INVALID ENTRY VECTOR DETECTED IN IOHCLST2
Explanation:  The entry vector used to determine the function to be performed by module IOHCLST2 was not valid.
System action:  The job fails.
User response:  Contact IBM Software Support for assistance.
Severity:  8

IOH3302E  MVS BLDL DDNAME IOHPDS FAILED RC=rc REASON CODE reason
Explanation:  An MVS BLDL macro returned an unexpected return code and reason code, as indicated in the message text.
System action:  The job fails.
User response:  Review the MVS SYSLOG for any additional error messages which may be related to this problem. Contact IBM Software Support for assistance.
Severity:  8

IOH3303E  MVS STOW DDNAME IOHPDS FAILED RC=rc REASON CODE reason
Explanation:  An MVS STOW macro returned an unexpected return code and reason code, as indicated in the message text.
System action:  The job fails.
User response:  Review the MVS SYSLOG for any additional error messages which may be related to this problem. Contact IBM Software Support for assistance.
Severity:  8

IOH3304E  IOHPDS DIRECTORY FULL - UNABLE TO SAVE UPDATE LIST
Explanation:  There was not sufficient space in the PDS directory to store the Resource Update List.
System action:  The job fails.
User response:  Delete unneeded members from the IOHPDS data set, or reallocate the data set with additional directory blocks.
Severity:  8

IOH3307W  NO UPDATE LIST ENTRIES ARE REQUIRED
Explanation:  The comparison of sysgen source and IMS system control blocks resulted in no required changes to IMS control blocks.
System action:  The job completes, but no updates are made to the IOHPDS data set.
User response:  None.
Severity:  4

IOH3308E  MVS ENQUEUE FOR IOHPDS FAILED RC=rc
Explanation:  An MVS ENQ macro returned with an unexpected return code, as indicated in the message. The QNAME used in the ENQ was IOHPDS01, and the RNAME was the data set name of the IOHPDS data set.
System action:  The job fails.
User response:  Review the MVS SYSLOG for additional messages that may be related to this problem. Contact IBM Software Support for assistance.
Severity:  8

IOH3309E  IOHPDS DATA SET IN USE
Explanation:  The IOHPDS data set was being read or written when the job attempted to write the Resource Update List.
System action:  The job fails.
User response:  Retry the job when the IOHPDS data set is no longer being written.
Severity:  8

IOH3310E  NUMBER OF UPDATE LIST ENTRIES EXCEEDS MAX OF 32767
Explanation:  The maximum number of entries allowed for a single Resource Update List has been exceeded.
System action:  The job fails.
User response:  Reduce the number of entries that are created by the job. If this is not a practical solution, contact IBM Software Support for assistance.
Severity:  8

IOH3311E  ERROR IN ACB RELOAD/AGN ENTRY
Explanation:  An internal error occurred processing $IOHGEN macro requests.
System action:  The job fails.
User response:  Retain the dump which accompanies this error, and contact IBM Software Support for assistance.
Severity:  8
IOH3316E  ERROR CONDITION x OCCURRED
  WRITING UPDATE LIST MEMBER
  name

Explanation: An internal error occurred while writing the Resource Update List to the IOHPDS data set.
System action: The job fails.
User response: Contact IBM Software Support for assistance.
Severity: 8

IOH3317E  AN MVS NOTE FAILED FOR
  MEMBER name RC=rc

Explanation: An MVS NOTE macro returned an unexpected return code and reason code, as indicated in the message text, while processing the Resource Update List member of the IOHPDS data set.
System action: The job fails.
User response: Review the MVS SYSLOG for any additional error messages which may be related to this problem. Contact IBM Software Support for assistance.
Severity: 8

IOH3341I  UPDATE LIST ENTRY CREATED TO
  CHANGE type name FOR THE
  FOLLOWING PARAMETERS:

Explanation: This message shows the resource type and name which were identified as inconsistent in definition attributes between IMS sysgen source macros and control blocks in the MODBLKS data set or the control blocks in use by the target IMS subsystem.
System action: An entry in the generated Resource Update List is created.
User response: None.
Severity: N/A

IOH3342I  UPDATE LIST ENTRY CREATED TO
  ADD type name

Explanation: This message shows the resource type and name which were identified as inconsistent between IMS sysgen source macros and control blocks in the MODBLKS data set or the control blocks in use by the target IMS subsystem. The named resource was present in the sysgen source, but not in the control blocks.
System action: An entry in the generated Resource Update List is created.
User response: None.
Severity: N/A

IOH4000I  This message contains an APPC error
  message retrieved from the APPC error
  extract service. IMS HP Sysgen Tools
  uses this APPC message to show the
  information retrieved from APPC.

Explanation: An APPC call returned an unexpected return code
System action: None.
User response: Use the APPC error information in this message in conjunction with the information in
message IOH4024E to determine the reason for the APPC call failure.

Severity: N/A

IOH4020E GETMAIN FAILED IN IOH APPC PROGRAM IOHZRCB
Explanation: A GETMAIN request failed.
System action: The function fails.
User response: For errors related to the failure in an APPC/MVS initiator, review the MVS SYSLOG on the system where IMS is running. Review the amount of storage above the 16 megabyte line which is available to the APPC task.
Severity: N/A

IOH4021E APPC request-1 REQUEST SEQUENCE ERROR-LAST REQUEST request-2
Explanation: There was an unexpected request from an IMS HP Sysgen Tools module for an APPC/MVS action. The requested action was inconsistent with the state of the APPC/MVS conversation.
System action: The function fails.
User response: For errors related to an APPC error in an APPC/MVS initiator, review the MVS SYSLOG on the system where IMS is running. There may be messages preceding this message which indicate a reason for the sequence error.
Severity: N/A

IOH4022E IOHZAPPC RECEIVED AN INVALID APPC REQUEST TYPE
Explanation: There was an unknown requests type received from an IMS HP Sysgen Tools module for an APPC/MVS action.
System action: The function fails.
User response: Review the MVS SYSLOG on the system where IMS is running for errors related to an APPC error in an APPC/MVS initiator. Contact IBM Software Support for assistance.
Severity: N/A

User response: An MVS LOAD for the stated APPC module failed. Ensure that APPC callable service modules are available through the MVS link list, or add the APPC callable services library to the STEPLIB concatenation of the IOHTPADD JCL (after EXEC PGM=IOHZMAIN). Contact IBM Software Support for assistance. Retain the APPC transaction program dump written to the dump data set specified in the IOHTPADD job in the SIOHSAMP data set.
Severity: U4001 abend occurs in the address space of the APPC transaction program.

IOH4024E APPC CALL TO module FAILED RC=nn
Explanation: The call for APPC services to the named module failed. The module name might be ATBALC2 (for Allocate), ATBSEND (for Send), ATBRCVW (for Receive), or ATBEES3 (for Error Extract).
System action: The requested function fails.
User response: Review the MVS SYSLOG on the systems where IMS runs to determine whether the failure was caused by an environmental problem, such as an APPC or VTAM problem, or by a problem with HP Sysgen code running in the APPC transaction program address space. Contact IBM Software Support for assistance.
Severity: U4001 abend occurs in the address space of the APPC transaction program.

IOH4025E APPC request RECEIVE RETURNED AN UNEXPECTED DATA_RECEIVED VALUE nn
Explanation: An unexpected value was returned by APPC for the value of the DATA_RECEIVED parameter. The APPC function requested is shown in the message text.
System action: The requested function fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH4100E AN ERROR OCCURRED CHECKING AN UPDATE LIST-AN UNKNOWN RESOURCE TYPE WAS ENCOUNTERED - type
Explanation: The header of a Resource Update List element did not contain a valid resource type indicator.
System action: The requested function fails.
Severity: 8
IOH4101E  AN ERROR OCCURRED CHECKING AN UPDATE LIST-AN UNKNOWN FUNCTION WAS ENCOUNTERED - type
Explanation: The header of a Resource Update List element did not contain a valid function indicator.
System action: The requested function fails.
Severity: 8

IOH4102E  TRAN transaction REQUESTS EDIT ROUTINE NAME editname BUT THAT NAME IS NOT DEFINED
Explanation: The edit routine name specified for this transaction was not already present in this IMS subsystem. Transaction edit routines cannot be dynamically added; they must already exist in the target IMS subsystem.
System action: The requested function fails. Resource checking is stopped following this error condition.
User response: If the transaction definition in the Resource Update List specifies a transaction edit routine not defined in this IMS control region, change the edit routine name to a name already present in this IMS system. Otherwise, contact IBM Software Support for assistance.
Severity: N/A

IOH4103E  MULTIPLE RESOURCE UPDATES FOR type name PRESENT IN THIS UPDATE LIST
Explanation: There was more than one Resource Update List entry for a single resource. There can be only one Resource Update List entry for a specific resource.
System action: The requested function fails. Resource checking is stopped following this error condition.
User response: Remove all but one occurrence of the entries that duplicate add, delete, or update the resource type and name indicated in the message.
Severity: N/A

IOH4104E  ADD FOR type name FAILED BECAUSE IT IS ALREADY DEFINED
Explanation: A Resource Update List entry requested that a resource that was already defined be added.
System action: The resource list check continues.
User response: Change the Resource Update List entry so that it does not attempt to add a resource that is already defined.
Severity: N/A

IOH4105E  DELETE FOR type name FAILED BECAUSE IT IS NOT DEFINED
Explanation: A Resource Update List entry requested that a resource that does not exist be deleted.
System action: The resource list check continues.
User response: Change the Resource Update List entry so that it does not attempt to delete an undefined resource.
Severity: N/A

IOH4106E  UPDATE FOR type name FAILED BECAUSE IT IS NOT DEFINED
Explanation: A Resource Update List entry requested that a resource that does not exist be deleted.
System action: The resource list check continues.
User response: Change the Resource Update List entry so that it does not attempt to update an undefined resource.
Severity: N/A

IOH4107E  type NAME name IS INVALID. FIRST CHAR MUST BE ALPHA, OTHERS ALPHANUMERIC.
Explanation: A Resource Update List entry requested that a resource be added, but the specified name is invalid.
System action: The resource list check continues.
User response: Change the Resource Update List entry to have a valid name for the resource being added.
Severity: N/A

IOH4108E  type NAME name IS INVALID. NAME IS RESERVED.
Explanation: A Resource Update List entry requested that a resource be added, but the specified name is a reserved name.
System action: The resource list check continues.
User response: Change the Resource Update List entry to have a valid name for the resource.
Severity: N/A
IOH4109E  type NAME name HAS AN INVALID PSB NAME psbname
Explanation: A Resource Update List entry specified an undefined or invalid PSB name to be associated with the transaction or route code.
System action: The resource list check continues.
User response: Change the Resource Update List entry to have a valid PSB name for the resource or route code.
Severity: N/A

IOH4110E  DELETE FOR PROGRAM name FAILED-MUST ALSO DELETE type name2
Explanation: A Resource Update List entry requesting a delete of program name did not also delete or change all transactions and route codes that were associated with the program. Transactions and route codes defined to IMS must be associated with a defined PSB name.
System action: The resource list check continues.
User response: When deleting a program definition, all transactions and route codes must also be deleted or changed to be associated with some other PSB.
Severity: N/A

IOH4111E  RTCODE name REQUIRES THAT PSB psbname HAVE FAST PATH=YES
Explanation: The named route code was associated with a PSB that did not have FPATH=YES specified.
System action: The verify or install request fails.
User response: Ensure that route codes are always associated with PSB names that have FPATH=YES specified.
Severity: N/A

IOH4112E  type name OPTION opt1 CONFLICTS WITH OPTION opt2
Explanation: Incompatible options were requested. Note that one of the specified options could be a PSB option (such as a schedule type SERIAL), and the other option could be a transaction option (such as MAXRGN).
System action: The resource list check continues.
User response: Review the options specified for the named resource. The two options specified in the message are incompatible. Make changes as required for a valid definition.
Severity: N/A

IOH4113E  type name OPTION opt1 IS REQUIRED FOR OPTION opt2
Explanation: Incompatible options were requested. Note that one of the specified options could be a PSB option (such as a schedule type SERIAL), and the other option could be a transaction option (such as MAXRGN).
System action: The resource list check continues.
User response: Review the options specified for the named resource. Ensure that the first option is specified properly, or change the second option to make it compatible with the first.
Severity: N/A

IOH4114E  type name REQUIRES FPATH WHICH IS NOT ACTIVE IN THE TARGET IMS
Explanation: A resource option specified requires that Fast Path be present in the IMS control region. Fast Path is not present in the target IMS environment.
System action: The resource list check continues.
User response: Remove the requirement for Fast Path from the named resource definition.
Severity: N/A

IOH4115E  type name CONTAINS AN INVALID VALUE FOR option
Explanation: The Resource Update List entry contained an invalid value for the option specified.
System action: The resource list check continues.
User response: Review the Resource Update List entry for the named resource, and correct the value of the named option.
Severity: N/A

IOH4116E  type name OPTION option VALUE value IS NOT SUPPORTED IN THE TARGET IMS
Explanation: The Resource Update List entry contained an invalid value for the option specified.
System action: The resource list check continues.
User response: Review the Resource Update List entry for the named resource, and change the value of the named option to a value that is supported in the appropriate IMS environment (and release).
Severity: N/A
IOH4117E TRANSACT name contains SYSID value(s) but MSC is not supported in the target IMS

**Explanation:** The Resource Update List entry contained values for the remote and/or local SYSID attributes. The target IMS environment does not contain support for MSC.

**System action:** The resource list check continues.

**User response:** Review the Resource Update List entry for the named resource, and remove the SYSID values from the resource options.

**Severity:** N/A

---

IOH4118E TRANSACT name exceeds the maximum allowed SYSID value for this IMS

**Explanation:** The Resource Update List entry contained values for the remote and/or local SYSID attributes that were invalid.

**System action:** The resource list check continues.

**User response:** Review the Resource Update List entry for the named resource, and change the SYSID values to values that are compatible with the target IMS environment.

**Severity:** N/A

---

IOH4119E TRANSACT name option is not defined as an appropriate local or remote SYSID

**Explanation:** The Resource Update List entry contained values for the remote and/or local SYSID attributes that were invalid.

**System action:** The resource list check continues.

**User response:** Review the Resource Update List entry for the named resource, and change the SYSID values to values that are compatible with the target IMS environment.

**Severity:** N/A

---

IOH4120E TRANSACT name class exceeds the maximum class for this IMS

**Explanation:** The Resource Update List entry contained an invalid value for the CLASS option. The class number must not exceed the maximum number of classes supported by this IMS subsystem.

**System action:** The resource list check continues.

**User response:** Review the Resource Update List entry for the named resource, and change the CLASS values to values that are compatible with the target IMS environment.

**Severity:** N/A

---

IOH4121E TRANSACT name requires conversational processing but this IMS was not genned for conversational trans

**Explanation:** The Resource Update List entry contained an invalid value for the SPA size option. The target IMS does not contain support for conversational transactions.

**System action:** The resource list check continues.

**User response:** Review the Resource Update List entry for the named resource, and change the SPA value to blank. Conversational transactions are not supported in the target IMS environment.

**Severity:** N/A

---

IOH4122E TRANSACTION transcode duplicates an existing LTERM or link name

**Explanation:** A transaction name to be added already exists in the target IMS subsystem as an LTERM name.

**System action:** The verify or install request fails.

**User response:** Ensure that transaction names to be added to the IMS system definition do not duplicate LTERM names that are included in the IMS sysgen or that are created dynamically by ETO when a user logs on.

**Severity:** N/A

---

IOH4123E resource-type name cannot be deleted because it is active

**Explanation:** An attempt was made to delete a resource, but the resource was active.

**System action:** The verify or install request fails.

**User response:** Ensure that resources that are being deleted are not active.

**Severity:** N/A

---

IOH4124E DATABASE dbdname cannot be deleted because it has not been /DBR'd

**Explanation:** IMS HP Sysgen Tools will not delete a database unless the database has already been taken offline by using a /DBR command.

**System action:** The verify or install request fails.

**User response:** When you delete a database definition, ensure that the DB has been the object of an IMS /DBR command before installing the Resource Update List.

**Severity:** N/A
IOH4125E TRANSACT transcode CANNOT BE DELETED BECAUSE IT HAS MESSAGES QUEUED

Explanation: A Resource Update List that is being verified or installed included a transaction delete, but the transaction has messages queued and waiting to process. HP Sysgen cannot delete a transaction that has messages queued.

System action: The verify or install request fails.

User response: Ensure that no messages are queued for transaction codes that are to be deleted in a Resource Update List.

Severity: N/A

IOH4126E FPATH EXCLUSIVE TRAN transcode DOES NOT HAVE A MATCHING ROUTE CODE DEFINED

Explanation: A fast path exclusive transaction code is required to have a matching route code definition. The named fast path exclusive transaction does not have a matching route code defined.

System action: The verify or install request fails.

User response: Ensure that the named transaction code has a fast path route code with the same name defined, or change the named transaction so that it is not a fast path exclusive transaction.

Severity: N/A

IOH4127E FASTPATH EXCLUSIVE PROGRAM name HAS NON-FASTPATH TRANSACTION transcode

Explanation: A fast path exclusive application program cannot have a non-fast path transaction associated with it.

System action: The verify or install request fails.

User response: Verify that the named program should be a fast path exclusive program, or that the named transaction code should be non-fast path.

Severity: N/A

IOH4128E INVALID COMMAND ENCOUNTERED-MUST BEGIN WITH A SLASH

Explanation: The first character of the IMS command specified in an update list entry did not begin with a slash (/).

System action: The verification or installation of the Resource Update List fails.

User response: Correct the IMS command specified in the Resource Update List to ensure that it is a type one command and that it begins with a slash (/).

Severity: N/A

IOH4129E IMS TRAN COMMAND SECURITY IS NOT ACTIVE-TCOMMAND CHANGES INVALID

Explanation: The target IMS subsystem does not have transaction command security active. TCOMMAND changes cannot be made when transaction command security is not active.

System action: The verification or installation of the Resource Update List fails.

User response: TCOMMAND changes are not valid for the specified IMS subsystem. Remove the TCOMMAND update list entries or change the IMS subsystem to a subsystem name that supports the TCOMMAND function.

Severity: N/A

IOH4130E RELOAD FOR type name FAILED reason

Explanation: The PSB or DBD name that was requested for a reload was not successfully reloaded. The reason in the message text indicates why the reload attempt failed: Either the PSB or DBD is not defined in the target IMS system, or the PSB’s option specification is not supported for the Process option or release of IMS.

System action: The verification or installation of the resource update list fails.

User response: If the PSB or DBD is not defined, verify that the correct resource name and type were specified. If the option of the PSB is not supported, review the Process and PSB’s option specifications, and the release of the target IMS system, and correct the error.

Severity: N/A

IOH4131E RELOAD ENTRY CONTAINS INVALID RESOURCE TYPE - type

Explanation: An invalid value was found for the resource type, as shown in the message text. Only PSB and DBD are permitted.

System action: The verification or installation of the Resource Update List fails.

User response: Change the resource type in the Resource Update List entry to be either PSB or DBD.

Severity: N/A

IOH4132E COMMAND ENTRY CONTAINS INVALID SEQUENCE - sequence

Explanation: The sequence field for the IMS command contains an invalid value. The only valid values are BEFORE and AFTER.
System action: The verification or installation of the Resource Update List fails.

User response: Change the sequence field specified on the command entry to either BEFORE or AFTER. The value specified is not a valid value.

Severity: N/A

IOH4133E ALESERV function FAILED RC=nn

Explanation: An MVS ALESERV macro failed for function ADD or DELETE, as identified in the message text, for addressability to the IMS control region address space.

System action: The request is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH4134E TERMSEC ENTRY CONTAINS AN INVALID STATIC LTERM NAME - name

Explanation: The LTERM name specified in a TERMSEC update list entry (as shown in the message text) is not a valid static LTERM name for the target IMS subsystem.

System action: The verification or installation of the Resource Update List fails.

User response: The TERMSEC request contains an invalid LTERM name. Change the LTERM name to a valid static LTERM name for the target IMS subsystem.

Severity: N/A

IOH4135E TERMSEC ENTRY CONTAINS AN INVALID type NAME - name

Explanation: A TERMSEC entry in the Resource Update List contains a COMMAND or TRANSACT, as shown by the type in the message text that is not defined in the target IMS subsystem.

System action: The verification or installation of the Resource Update List fails.

User response: Change the resource name (either command name or transaction code) to a name that is valid in the target IMS subsystem.

Severity: N/A

IOH4136E type SECURITY IS NOT ACTIVE. CANNOT PROCESS type ENTRIES

Explanation: The named security type (AGN or TERMINAL) is not active in the target IMS subsystem. AGN or TERMSEC update list entries are not valid when the associated security feature is not active.

System action: The verification or installation of the Resource Update List fails.

User response: The terminal security request is already defined. Remove the TERMSEC entry from the Resource Update List.

Severity: N/A
Severity: N/A

IOH4140E  TERMSEC UPDATED FAILED - INVALID RESOURCE ID FOUND FOR LTERM name

Explanation: While installing a TERMSEC update, an invalid row number was found for the indicated IMS LTERM name. The row number in the CVB or SMB exceeded the number of rows in the matrix table.

System action: The verification or installation of the Resource Update List fails.

User response: This condition should not occur. Contact IBM Software Support for assistance.

Severity: N/A

IOH4141E  UNABLE TO UPDATE type ENTRIES FOR AGN name BECAUSE IT WAS GENNED FOR type ALL

Explanation: When an AGN definition specifies ALL for a resource type (PROGRAM, TRANSACT, or LTERM), individual entries cannot be added or deleted from the AGN definition.

System action: The verification or installation of the Resource Update List fails.

User response: Remove any AGN requests for the indicated AGN name and resource type. It was generated for all of the indicated resource types, therefore, individual resource names cannot be added or deleted.

Severity: N/A

IOH4142E  RELOAD of type name FAILED - reason

Explanation: An ACBLIB reload request failed. The type (PSB or DBD) and ACBLIB member names are shown in the message, along with the reason for the failure. The reason for the failure is of the following.

NOT STOPPED
The named program or database named in the message was not stopped. IMS HP Sysgen Tools should automatically stop the resource when the reload request is processed. Contact BM Software Support for assistance.

PSB SCHEDULED
The program named in the message was active at the time that the reload was in progress. Ensure that the application program is not active at the time that a reload request is installed.

DBD OPEN
The database named in the message was still open when the reload request was attempted.

Ensure that a database whose DBD is to be reloaded is not open when a reload is attempted.

DBD IS A HALDB PART
The database named in the message is a HALDB partition. Only the master HALDB name has a DBD, so only the master can be reloaded. Change the name of the database to the HALDB master name.

DB NOT /DBR'ED
The database to be reloaded must have been the object of an IMS /DBR command in order to reload the DBD. Ensure that the database has been /DBR’d before reloading the DBD.

DBD HAS ERROR BLOCKS
The named database has EEQE elements that should be resolved before the DBD is reloaded. Recover the database (using the old DBD) before attempting to reload the DBD.

DBD IS ACTIVE
The database named in the message is currently in use. Before reloading the database, ensure that no applications are using the database.

DB IS AN MSDB
IMS HP Sysgen Tools does not support reloading the DBD of an MSDB type database.

FP NOT PRESENT
An attempt was made to reload the DBD of a DEDB type database, but the IMS Fast Path feature is not available in the target IMS subsystem.

NO OTHREADS PRESENT
An attempt was made to reload the DBD of a DEDB type database, but there are no OTHREADS available in the target IMS subsystem.

DBR IN PROGRESS
A /DBR command was in progress for the named database at the time that the reload was attempted. Wait for the /DBR to complete, and retry the reload.

RECOVERY IN PROGRESS
Recovery is in progress for the named database. Wait for the recovery to complete before attempting to reload the DBD.

DEDB NOT SUPPORTED
DEDB type databases are not supported by the level of IMS HP Sysgen Tools that is currently installed. Contact IBM Software Support to identify maintenance that could resolve this problem.

NOT GBL ONL CHANGE
Global Online Change is not enabled on the target IMS system. You cannot select Process
option 2 (IMS Member level Global Online Change) if Global Online Change is not enabled.

**SCI NOT ACTIVE**
No SCI address space is available for the target IMS system. An SCI address space must be available before issuing the IMS INITIATE OLC command. When the IMS member level global online change method is used, the IMS INITIATE OLC command reloads a PSB or DBD.

**OM NOT ACTIVE**
No OM address space is available for the target IMS system. The OM address space must be available before issuing the IMS INITIATE OLC command. When the IMS member level global online change method is used, the IMS INITIATE OLC command reloads a PSB or DBD.

**System action:** The reload of the indicated ACBLIB member fails, but any other changes are implemented in the resource update lists being installed.

**User response:** Review the reason for the ACBLIB member reload failure, and take the appropriate action.

**Severity:** N/A

**IOH4145E** IMS DYNAMIC RESOURCE DEFINITION (DRD) ENABLED

**Explanation:** The maintenance level of IMS HP Sysgen Tools does not support IMS Dynamic Resource Definition (DRD).

**System action:** The request fails.

**User response:** This maintenance level of IMS HP Sysgen Tools does not support an IMS system with DRD activated. HP sysgen maintenance may be available to resolve this problem. Contact IBM Software Support for assistance.

**Severity:** N/A

**IOH4146E** IMS IS BEING SHUT DOWN

**Explanation:** Resource Update Lists cannot be installed while IMS is being stopped.

**System action:** The request fails.

**User response:** Retry the request when IMS is not being shut down.

**Severity:** N/A

**IOH4147E** DBD dbname AREA areaname DBR NOT POSSIBLE-reason

**Explanation:** A randomizer reload was included in the Resource Update List being verified or installed, but Fast Path is not included in the target IMS system. IMS HP Sysgen Tools can only reload randomizers for DEDB databases. Because Fast Path is not included in the target IMS system, there cannot be any DEDB databases defined.

**System action:** The request fails.

**User response:** Remove any requests for DEDB randomizer reloads from the Resource Update List, and retry the operation.

**Severity:** N/A

**IOH4148E** DEDB RANDOMIZER RELOAD FAILED-FP NOT ACTIVE

**Explanation:** A randomizer reload was included in the Resource Update List being verified or installed, but Fast Path is not included in the target IMS system. IMS HP Sysgen Tools can only reload randomizers for DEDB databases. Because Fast Path is not included in the target IMS system, there cannot be any DEDB databases defined.

**System action:** The request fails.

**User response:** Remove any requests for DEDB randomizer reloads from the Resource Update List, and retry the operation.

**Severity:** N/A
IOH4149E  DEDB RANDOMIZER RELOAD FAILED-NO DEDBS FOUND

Explanation: A randomizer reload was included in the Resource Update List being verified or installed, but there were no DEDB databases defined in the target IMS system.

System action: The request fails.

User response: Ensure that the proper target IMS system was used to verify or install the Resource Update List. Remove the DEDB randomizer reload entry from the Resource Update List for target IMS systems that have no DEDBs defined.

Severity: N/A

IOH4150E  DEDB RANDOMIZER RELOAD FAILED-NO DEDBS FOUND USING RANDOMIZER

Explanation: A randomizer reload was included in the Resource Update List being verified or installed, but the randomizer was not found in any active DEDB databases.

System action: The request fails.

User response: Review the randomizer name(s) specified for DEDB randomizer reload to ensure that the randomizer name is currently in use. Use the IMS HP Sysgen Tools View option to verify that the randomizer name is currently loaded. Note that if a DEDB has been /DBRed, the randomizer would not currently be loaded.

Severity: N/A

IOH4151E  DEDB RANDOMIZER RELOAD FAILED-DEDB CONFIG CHANGED DURING RELOAD

Explanation: The number of databases using the requested randomizer changed during the process of reloading the randomizer module.

System action: The request fails.

User response: Ensure that the databases using the randomizer being reloaded were not started during the randomizer reload process.

Severity: N/A

IOH4152E  LOAD FAILED FOR module RC=rc ABCODE=abend

Explanation: An MVS load failed for the module named in the message. The message shows the load macro return code and the abend code that would have occurred.

System action: The request fails.

User response: Review the MVS syslog on the LPAR where the target IMS subsystem is running for other error messages that may be associated with the load failure. Contact the IBM Support Center for assistance.

Severity: N/A

IOH4153E  resource-type CHANGES NOT PERMITTED IN A subsystem-type ENVIRONMENT

Explanation: A Resource Update List contained a request for a resource type that is not supported in the target IMS subsystem. The message identifies the type of resource (DATABASE, TRAN, or RTCODE) and the target IMS subsystem type (DBCtl or DCCTL).

System action: The request fails.

User response: Remove Resource Update List entries which are not appropriate for the type of target IMS subsystem.

Severity: N/A

IOH4201E  INVALID COMMAND REQUESTED - CODE x

Explanation: The command entered was not found in the IMS HP Sysgen Tools list of valid commands.

System action: The command is not issued.

User response: Verify that the command entered on the panel begins with a slash (/) and that it contains a valid three character command immediately following the slash.

Severity: N/A

IOH4202E  AN ERROR OCCURRED LOADING MODULE modulename ABEND abendcode REASON CODE rc

Explanation: An MVS LOAD macro returned an unexpected return code.

System action: The command is not issued.

User response: Review the abend code and return code to determine the cause of the MVS LOAD macro failure. Review the MVS SYSLOG on the MVS system where the requested IMS subsystem runs to determine whether there are any associated MVS error messages.

Severity: N/A

IOH4203E  MODULE modulename RECEIVED AN APPC MESSAGE WITH AN UNKNOWN REQUEST TYPE - reqtype

Explanation: An unknown function was supplied in the APPC message received by module IOHZCMA or IOHzRCB.

System action: The command is not issued.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH4204E  APPC/IMS CALL TO modname FAILED
          RC=rc
Explanation: An unknown function was supplied in the APPC message received by module IOHZCMA.
System action: The command is not issued.
User response: Review the MVS SYSLOG on the system for any messages related to the APPC/IMS session failure. Also, determine whether or not APPC returned any message text which would be documented in message IOH4205I, which follows this message.
Severity: N/A

IOH4205I  This message contains an APPC error message retrieved from the APPC error extract service. IMS HP Sysgen Tools uses this APPC message to show the information retrieved from APPC.
Explanation: A call to an APPC module to service an APPC/IMS session returned with an unexpected return code. The error text returned by the error extract APPC service is documented in this message.
System action: The command is not issued.
User response: Review this message and the IOH4204E message which precedes it. For assistance with resolving the problem, contact IBM Software Support.
Severity: N/A

IOH4206E  NAME/TOKEN SERVICE IEANTCR FAILED WITH RETURN CODE rc
Explanation: An unexpected return code was received from the MVS Name/Token service, and is documented in the message text.
System action: The command is not issued.
User response: The return code present in message is not documented in the MVS Assembler Services Reference manual. For assistance with resolving the problem, contact IBM Software Support.
Severity: N/A

IOH4208E  AN INTERNALLY GENERATED COMMAND HAD AN UNEXPECTED RESPONSE, AS FOLLOWS:
Explanation: An internally generated IMS command, such as START or STOP, returned an unexpected response.

System action: The requested action fails.
User response: Review the command and the unexpected response. Contact IBM Software Support for assistance.
Severity: N/A

IOH4209E  AN EMPTY RESOURCE UPDATE LIST WAS PRESENTED FOR INSTALL
Explanation: An attempt was made to verify or install a Resource Update List which contained no entries.
System action: The requested action fails.
User response: Ensure that Resource Update List(s) which you specify for the verify or install functions are not empty.
Severity: N/A

IOH4210E  IMS SHUTDOWN DETECTED
          (code)-INSTALL REQUEST FAILS
Explanation: IMS HP Sysgen Tools determined that IMS was in the process of shutting down at the time the requested function was being processed.
System action: The request fails.
User response: Ensure that IMS is not being shut down when the function was requested. Many IMS HP Sysgen Tools functions, including verifying or installing a Resource Update List or issuing an IMS command.
Severity: N/A

IOH4211E  MVS STIMERM REQUEST FAILED
          RC=rc
Explanation: An MVS STIMERM macro returned with an unexpected return code.
System action: The request fails.
User response: Review the STIMERM return code, and contact the IBM Support Center for further assistance.
Severity: N/A

IOH4302E  AN ERROR OCCURRED LOADING MODULE modname ABEND abcd
          REASON CODE rc
Explanation: An MVS LOAD macro returned an unexpected return code.
System action: The command is not issued.
User response: Review the abend code and return code to determine the cause of the MVS LOAD macro failure. Review the MVS SYSLOG on the system where the requested IMS subsystem runs to determine whether there are any associated MVS error messages.
Severity: N/A

**IOH4303E**  
MODULE IOHZCMB RECEIVED AN  
APPC MESSAGE WITH AN  
UNKNOWN REQUEST TYPE -reqtype

Explanation: An unknown function was supplied in the APPC message received by module IOHZCMB.

System action: The command is not issued.

User response: Contact IBM Software Support for assistance.

Severity: N/A

**IOH4304E**  
UNEXPECTED RETURN CODE FROM  
IMS AIB CALL RETURN CODE rc  
REASON reason

Explanation: An IMS call using the AIB interface completed with an unexpected return code.

System action: The request fails.

User response: Look up the return code and reason code in the IMS Application Programming: Transaction Manager, manual to determine the reason for the AIB call failure.

Severity: N/A

**IOH4306E**  
NAME/TOKEN SERVICE IEANTCR  
FAILED WITH RETURN CODE rc

Explanation: An unexpected return code was received from the MVS Name/Token service and is documented in the message text.

System action: The command is not issued.

User response: The return code present in the message is documented in the MVS Assembler Services Reference manual. Contact IBM Software Support for assistance.

Severity: N/A

**IOH4307E**  
RELOAD SUCCESSFUL FOR type name

Explanation: As requested, the ACBLIB member indicated in the message was reloaded.

System action: None.

User response: None.

Severity: N/A

**IOH4401E**  
AN ERROR OCCURRED CHECKING  
AN UPDATE LIST-AN UNKNOWN  
RESOURCE TYPE WAS  
ENCOUNTERED-type

Explanation: The Resource Update List sent to the APPC transaction program contained an unknown function in the APPC message.

System action: The installation is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

**IOH4402E**  
AN ERROR OCCURRED CHECKING  
AN UPDATE LIST-AN UNKNOWN  
FUNCTION WAS ENCOUNTERED- 
function

Explanation: The Resource Update List sent to the APPC transaction program contained an unknown function code in the APPC message.

System action: The installation is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

**IOH4403E**  
type name function ERROR-RESOURCE  
reason

Explanation: The Resource Update List being installed contained an element for the resource type and name specified in the message. The function identified in the message was the action requested in the Resource Update List. The reason identifies the error condition encountered attempting to perform the requested function.

System action: The installation is stopped.

User response: Check the status of the resource type and name specified in the message.

Severity: N/A

**IOH4404E**  
type name CONTAINS AN INVALID  
VALUE FOR option

Explanation: An error occurred while installing the named resource type and name specified in the message. The value for the specified option is not a valid value.

System action: The installation is stopped.

User response: Check the value specified for the option attribute for the named resource type and name. Use the VERIFY function to validate the content of the field. Contact IBM Software Support for assistance.

Severity: N/A

**IOH4405E**  
AN ERROR OCCURRED PROCESSING  
DBD dbdname FOR THE VALUE OF  
THE option PARM

Explanation: While processing a Resource Update List entry for the named database, an error occurred while
interpreting the value of the named option.

**System action:** The installation is stopped.

**User response:** Check the value specified for the option attribute for the named database. Use the VERIFY function to validate the content of the field. Contact IBM Software Support for assistance.

**Severity:** N/A

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**IOH4406E** AN ERROR OCCURRED PROCESSING PSB `psbname` FOR THE VALUE OF THE option `PARM`

**Explanation:** While processing a Resource Update List entry for the named program, an error occurred while interpreting the value of the named option.

**System action:** The installation is stopped.

**User response:** Check the value specified for the option attribute for the named program. Use the VERIFY function to validate the content of the field. Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOH4407E** TRAN `transcode` INDICATES EDIT ROUTINE NUMBER `n1` BUT ONLY `n2` EXISTS

**Explanation:** The value of the transaction edit routine number created by IMS HP Sysgen Tools (`n1`) exceeds the maximum number of transaction edit routines `n2`.

**System action:** The installation is stopped.

**User response:** Verify that a valid transaction edit routine name was included in the Resource Update List. Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOH4409E** AN EMPTY RESOURCE UPDATE LIST WAS PRESENTED FOR INSTALL

**Explanation:** An attempt was made to verify or install a Resource Update List which contained no entries.

**System action:** The requested action fails.

**User response:** Ensure that Resource Update List(s) which you specify for the verify or install functions are not empty.

**Severity:** N/A

---

**IOH4410E** ERROR UPDATING RESOURCE EXTENSION-`reason`

**Explanation:** An error occurred while a resource extension IMS control block was being updated. The reason code indicates the problem that was encountered when IMS HP Sysgen Tools attempted to change the timestamp associated with a resource update.

**System action:** The request fails.

**User response:** Contact IBM Software Support.

**Severity:** 8

---

**IOH4411E** ALESERV function FAILED RC=`rc`

**Explanation:** An MVS ALESERV macro failed for function ADD or DELETE for addressability to the IMS control region address space.

**System action:** The request fails.

**User response:** Contact IBM Software Support.

**Severity:** 8

---

**IOH4421E** MODULE IOHZRCB ENCOUNTERED AN ERROR PARSING `type` CONTROL BLOCKS

**Explanation:** Module IOHZRCB encountered an error while it was parsing the named type of IMS control block.

**System action:** The request fails.

**User response:** Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOH4422E** CONTROL BLOCK DATA EXCEEDS MAXIMUM SIZE

**Explanation:** The amount of data that was gathered in response to a request exceeds the buffer size allowed by `.`

**System action:** The request fails.

**User response:** Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOH4501E** AN ERROR OCCURRED CHECKING AN UPDATE LIST-AN UNKNOWN RESOURCE TYPE WAS ENCOUNTERED-`type`

**Explanation:** The Resource Update List sent to the APPC transaction program contained an unknown resource type in the APPC message.

**System action:** The installation is stopped.

**User response:** Contact IBM Software Support for assistance.

**Severity:** N/A
IOH4502E AN ERROR OCCURRED CHECKING AN UPDATE LIST—AN UNKNOWN RESOURCE TYPE WAS ENCOUNTERED—function

Explanation: The Resource Update List sent to the APPC transaction program contained an unknown function code in the APPC message.

System action: The installation is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH4503E type name function ERROR-RESOURCE reason

Explanation: The Resource Update List being installed contained an element for the resource type and name specified in the message. The function identified in the message was the action requested in the Resource Update List. The reason identifies the error condition encountered while attempting to perform the requested function.

System action: The installation is stopped.

User response: Check the status of the resource type and name specified in the message.

Severity: N/A

IOH4504E type name CONTAINS AN INVALID VALUE FOR option

Explanation: An error occurred while installing the named resource type and name specified in the message. The value for the specified option is not a valid value.

System action: The installation is stopped.

User response: Check the value specified for the option attribute for the named resource type and name. Use the VERIFY function to validate the content of the field. Contact IBM Software Support for assistance.

Severity: N/A

IOH4505E AN ERROR OCCURRED PROCESSING DBD dbname FOR THE VALUE OF THE option PARM

Explanation: While processing a Resource Update List entry for the named database, an error occurred while interpreting the value of the named option.

System action: The installation is stopped.

User response: Check the value specified for the option attribute for the named database. Use the VERIFY function to validate the content of the field. Contact IBM Software Support for assistance.

Severity: N/A

IOH4506E AN ERROR OCCURRED PROCESSING PSB psbname FOR THE VALUE OF THE option PARM

Explanation: While processing a Resource Update List entry for the named program, an error occurred while interpreting the value of the named option.

System action: The installation is stopped.

User response: Check the value specified for the option attribute for the named program. Use the VERIFY function to validate the content of the field. Contact IBM Software Support for assistance.

Severity: N/A

IOH4507E TRANS transcodel Indicates Edit Routine Number n1 But Only n2 Exists

Explanation: The value of the transaction edit routine number created by IMS HP Sysgen Tools n1 exceeds the maximum number of transaction edit routines n2.

System action: The installation is stopped.

User response: Verify that a valid transaction edit routine name was included in the Resource Update List. Contact IBM Software Support for assistance.

Severity: N/A

IOH4701E ERROR INTERPRETING IMS CTRAN TCOMMAND MATRIX (1)

Explanation: An error occurred retrieving information from the IMS transaction command matrix. The length of a row in the matrix was an unexpected value (not 8 for IMS 8.1 and earlier or 9 for IMS 9.1 and later).

System action: The request fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH4702E MODULE IOHZGET RECEIVED AN INVALID RESOURCE TYPE-resource

Explanation: IMS HP Sysgen Tools initiated a request through APPC to extract the attributes of a resource. The APPC message contained an invalid value for the type of resource to be obtained.

System action: The operation is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A
IOH4703E  MODULE IOHZGET RECEIVED AN
APPC MESSAGE WITH AN
UNKNOWN REQUEST TYPE-type

Explanation: IMS HP Sysgen Tools initiated a request
through APPC to extract the attributes of a resource.
The APPC message contained an invalid value for the
function to be performed.

System action: The operation is stopped.
User response: Contact IBM Software Support for
assistance.
Severity: N/A

IOH4704E  AN ERROR OCCURRED PROCESSING
DBD dbdname FOR THE VALUE OF
THE option PARM

Explanation: While processing a Resource Update List
entry for the named database, an error occurred
interpreting the value of the named option.

System action: The installation is stopped.
User response: Check the value specified for the
option attribute for the named database. Use the
VERIFY function to validate the content of the field.
Contact IBM Software Support for assistance.
Severity: N/A

IOH4705E  AN ERROR OCCURRED PROCESSING
PSB psbname FOR THE VALUE OF
THE option PARM

Explanation: While processing a Resource Update List
entry for the named program, an error occurred
interpreting the value of the named option.

System action: The installation is stopped.
User response: Check the value specified for the
option attribute for the named program. Use the
VERIFY function to validate the content of the field.
Contact IBM Software Support for assistance.
Severity: N/A

IOH4706E  TRAN trancode INDICATES EDIT
ROUTINE NUMBER n1 BUT ONLY n2
EXISTS

Explanation: The value of the transaction edit routine
number created by IMS HP Sysgen Tools (n1) exceeds
the maximum number of transaction edit routines (n2)

System action: The installation is stopped.
User response: Verify that a valid transaction edit
routine name was included in the Resource Update
List. Contact IBM Software Support for assistance.
Severity: N/A

IOH4713E  DRD ENVIRONMENT IS NOT
SUPPORTED

Explanation: IMS HP Sysgen Tools determined that
DRD is active on the target IMS system. IMS HP
Sysgen Tools does not support DRD.

System action: The request fails.
User response: If DRD is not active, re-create the
IMSID setup parameters to ensure that IMS HP Sysgen
Tools obtains the current DRD status.
Severity: 8

IOH4714E  LOAD FAILED FOR modname RC=rc
ABCODE= code

Explanation: A LOAD for the specified module name
failed. Had the condition not been intercepted, the
result would have been an abend with abend code code,
reason code rc.

System action: The requested function fails.
User response: Verify that the RESLIB DSN and IMS
suffix in the IMSID options are correct.
Severity: N/A

IOH4715E  DRD RESOURCES REQUESTED BUT
DRD DISABLED - x

Explanation: A request for DRD information was
received, but DRD is not active in the target IMS
subsystem. The code at the end of the message
indicates the reason for the error.

System action: The request fails.
User response: Ensure that the IMSID options are set
properly in the HP Sysgen setup options.
Severity: 8

IOH4716E  ERROR LOCATING IMS RDDS DATA
SET NAMES - x

Explanation: An error occurred while trying to find
the data set names for the RDDS data sets that are used
by an IMS subsystem. The code at the end of the
message indicates the reason for the error.

System action: The request fails.
User response: Contact IBM Software Support.
Severity: 8

IOH4720E  DRD PROCESSING REQUESTED IN
NON-DRD ENVIRONMENT

Explanation: A request was received for information
about IMS DRD resources, but DRD is not enabled in
the IMS subsystem.

System action: The request fails.
User response: Change your request so that non-DRD resources are requested in an IMS subsystem that has DRD disabled.

Severity: 8

IOH4721E  ERROR PARSING xxxxxxx
COMMAND OUTPUT - CODE yy

Explanation: IMS HP Sysgen Tools experienced an unexpected condition while parsing the XML output of an IMS type 2 command. The IMS command and internal IMS HP Sysgen Tools reason code are shown in the message text.

System action: The request fails.
User response: Contact IBM Software Support.
Severity: 8

IOH4722E  IMS SCI xxxxxxxxxx CALL FAILED
RC=yy REASON CODE=zz

Explanation: An SCI call failed. The call type is indicated in the message by the xxxxxxx value. The SCI return code and reason codes are also shown in the message text.

System action: The request fails.
User response: Ensure that IMS and the required SCI and OM address spaces are available for the target IMS system.
Severity: 8

IOH4723E  CTL RC=xx REASON CODE=yy

Explanation: An error message was received in response to an IMS type 2 command. The CTL return and reason codes are shown in the message text.

System action: The request fails.
User response: Investigate the reason for the IMS type 2 command failure.
Severity: 8

IOH4724E  CMDERR text

Explanation: An error message was received in response to an IMS type 2 command. The CMDERR text is shown in the message text.

System action: The request fails.
User response: Investigate the reason for the IMS type 2 command failure.
Severity: 8

IOH4725E  CMDERR RC=xx REASON CODE=yy

Explanation: An error message was received in response to an IMS type 2 command. The CMDERR return and reason codes are shown in the message text.

System action: The request fails.
User response: Investigate the reason for the IMS type 2 command failure.
Severity: 8

IOH4726E  CMDSECERR EXIT RC=ww SAF RC=xx
RACFRFC=yy RACFRSN=zz

Explanation: An error message was received in response to an IMS type 2 command. The command security error return and reason codes are shown in the message text.

System action: The request fails.
User response: Investigate the reason for the IMS type 2 command failure.
Severity: 8

IOH4727E  RESPONSE text

Explanation: An error message was received in response to an IMS type 2 command. The error text response is shown in the message text.

System action: The request fails.
User response: Investigate the reason for the IMS type 2 command failure.
Severity: 8

IOH4728E  ACBMBR OLC NOT SUPPORTED: reason

Explanation: An ACBLIB reload request failed for the reason specified in the message text. Either global online change is not active, or IMS SCI or OM is not active.

System action: The verification or installation of the resource update list fails.
User response: Either change the ACB reload request from an IMS member level global online change to an HP Sysgen ACB reload process, or correct the environment in the target IMS system to make available the one or more IMS features that are indicated.
Severity: N/A

IOH4731E  TOO MANY ACB RELOAD NAMES IN THE RESOURCE UPDATE LIST(S)

Explanation: There were more than 100 ACB reload entries in the one or more resource update lists that were to be installed. All ACB reload requests in the
resource update lists that are being installed are performed in a single IMS command. IMS limits the number of ACB members that can be specified in an INITIATE OLC TYPE(ACBMBR) command to 100 names.

**System action:** The verification or installation of the resource update list fails.

**User response:** Change how the resource update lists are installed to limit the number of reload ACB requests to 100 names for each install request. Either install only one resource update list at a time, or break the resource update list into multiple lists, and install each independently.

**Severity:** N/A

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**IOH4801E** GETMAIN FAILED FOR SYSID TABLE

**Explanation:** A getmain for above the 16M line storage failed.

**System action:** The request is stopped.

**User response:** Verify that sufficient storage is available in the APPC transaction program JCL (see sample library SIOHSAMP member IOHTPADD). Contact IBM Software Support for assistance.

**Severity:** N/A

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**IOH4802E** ALESERV function FAILED RC=rc

**Explanation:** An ALESERV macro, with function ADD or DELETE, as shown in the message, failed.

**System action:** The request is stopped.

**User response:** Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOH4903E** LOAD FAILED FOR MODULE modname RC=rc

**Explanation:** An MVS LOAD failed with the indicated return code.

**System action:** The request is stopped.

**User response:** Review the MVS SYSLOG on the system where IMS is active for messages related to the load failure.

**Severity:** N/A

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**IOH4904E** LOCAL ONLINE CHANGE REQUESTED IN GLOBAL ONLINE CHANGE ENVIRONMENT

**Explanation:** A request for local online change process was made for an IMS subsystem with global online change enabled.

**System action:** The requested action fails.

**User response:** Contact IBM Software Support for assistance.

**Severity:** N/A

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**IOH4905E** GETMAIN FAILED FOR storage RC=rc

**Explanation:** An MVS GETMAIN failed with the indicated return code. The type of storage being obtained is indicated in the message text.

**System action:** The request is stopped.

**User response:** Review the MVS SYSLOG on the system where IMS is active for messages related to the load failure. Contact IBM Software Support for assistance.

**Severity:** N/A
IOH4908E  MVS ATTACH FOR DFSRRC00
FAILED-RC=rc
Explanation: An MVS ATTACH failed with the indicated return code.
System action: The request is stopped.
User response: Review the MVS SYSLOG on the system where IMS is active for messages related to the attach request failure. The ATTACH return code is indicated in the message text. Contact IBM Software Support for assistance.
Severity: N/A

IOH4909E  SUBTASK FAILED-ABEND=ab-code
Explanation: An attached task abended with the indicated abend code.
System action: The request is stopped.
User response: Review the MVS SYSLOG on the system where IMS is active for messages related to the subtask failure. There might be additional IMS HP Sysgen Tools messages displayed at the user's terminal, which should also be in the MVS SYSLOG.
Severity: N/A

IOH4912E  IMS insid HAS AN UNKNOWN APPC STATUS-status
Explanation: The indicated IMS subsystem contained an unknown value in LSCD field LSCD_STATUS.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH4913E  IMS insid HAS A TRANSITORY APPC STATUS-code
Explanation: The indicated IMS subsystem contained a transitory status in LSCD field LSCD_STATUS.
System action: The request is stopped.
User response: Determine the reason why APPC/IMS status is either being started or being stopped.
Severity: N/A

IOH4914E  INSTALLATION FAILED WITH UNDETERMINED CAUSE
Explanation: The install request experienced an error.
System action: Installation fails.
User response: Review the messages in the MVS SYSLOG where the target IMS subsystem runs for additional information about this error.
Severity: N/A

IOH4924E  RETRIEVE FOR OLCSTAT IMSIDS FAILED
Explanation: An attempt to retrieve the active IMSIDs from an OLCSTAT data set failed.
System action: The requested action fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH4925E  COPYMOD REQUEST RECEIVED FOR LOCAL ONLINE CHANGE IMS SYSTEM
Explanation: A request to perform the COPYMOD function was invalid. The COPYMOD request copies the active MODBLKS information to the inactive MODBLKS data set for an IMS-Plex member which is not being updated by a Resource Update List. The target IMS subsystem does not have global online change active.
System action: The requested action fails.
User response: If the IMS system which received this error message was recently converted from global online change to local online change, ensure that this IMSID is removed from the old OLCSTAT data set by performing an online change for the old IMS-Plex. Otherwise, contact IBM Software Support for assistance.
Severity: N/A

IOH5001E  LOAD FAILED FOR MODULE modname
RC=rc
Explanation: An MVS LOAD macro returned an unexpected return code while loading the indicated module name.
System action: The request is stopped.
User response: Review the MVS SYSLOG on the system where IMS is active for additional messages related to the LOAD failure. Contact IBM Software Support for assistance.
Severity: N/A

IOH5003E  UNKNOWN FUNCTION PASSED TO IOHZMAIN-function
Explanation: The APPC message received did not contain a valid IMS HP Sysgen Tools function code in the message text.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
**IOH5005E**  GETMAIN FAILED FOR storage RC=rc  
Explanation: An MVS GETMAIN failed with the indicated return code. The type of storage being obtained is indicated in the message text.  
System action: The request is stopped.  
User response: Review the MVS SYSLOG on the system where IMS is active for additional messages related to the storage request failure. Contact IBM Software Support for assistance.  
Severity: N/A

**IOH5007E**  OPEN FAILED FOR TASKLIB (IMS RESLIB)  
Explanation: An MVS OPEN for the IMS RESLIB failed.  
System action: The request is stopped.  
User response: Review the MVS SYSLOG on the system where IMS is active for additional messages related to the OPEN failure. Contact IBM Software Support for assistance.  
Severity: N/A

**IOH5008E**  MVS ATTACH FOR DFSRRC00 FAILED-RC=rc  
Explanation: An MVS ATTACH failed with the indicated return code.  
System action: The request is stopped.  
User response: Review the MVS SYSLOG on the system where IMS is active for additional messages related to the ATTACH request failure. Contact IBM Software Support for assistance.  
Severity: N/A

**IOH5009E**  SUBTASK FAILED ABEND=ab-code  
Explanation: An attached task abended with the indicated abend code.  
System action: The request is stopped.  
User response: Review the MVS SYSLOG on the system where IMS is active for additional messages related to the subtask failure. There might be additional IMS HP Sysgen Tools messages displayed at the user’s terminal, which should also be in the MVS SYSLOG.  
Severity: N/A

**IOH5010E**  IMS NOT ACTIVE ON THIS MVS IMAGE-IMS imsid  
Explanation: The IMS SCD for the named IMSID was not found on the MVS.  
System action: The request is stopped.  
User response: Ensure that IMS is active. Also, ensure that the APPC symbolic destination supplied in the SETUP options for this IMSID is correct for the MVS system where this IMS runs.  
Severity: N/A

**IOH5011E**  IMS imsid IS RUNNING AN UNKNOWN VERSION OF IMS version  
Explanation: The version of IMS indicated in the SCD, and shown in the message text, is not supported.  
System action: The request is stopped.  
User response: Contact IBM Software Support for assistance.  
Severity: N/A

**IOH5012E**  IMS imsid HAS AN UNKNOWN APPC STATUS-code  
Explanation: The indicated IMS subsystem contained an unknown value in LSCD field LSCD_STATUS.  
System action: The request is stopped.  
User response: Contact IBM Software Support for assistance.  
Severity: N/A

**IOH5013E**  IMS imsid HAS A TRANSITORY APPC STATUS-code  
Explanation: The indicated IMS subsystem contained a transitory status in LSCD field LSCD_STATUS.  
System action: The request is stopped.  
User response: Determine the reason why APPC/IMS status is either being started or being stopped.  
Severity: N/A

**IOH5014E**  IMS imsid WAS SHUT DOWN WHILE AN UPDATE LIST WAS BEING IMPLEMENTED  
Explanation: The requested IMS subsystem ended during the Resource Update List installation process. The process could not be completed.  
System action: The request is stopped.  
User response: Retry the operation when IMS is restarted.  
Severity: N/A
IOH5015E · IOH5024E

IOH5015E OPEN FAILED FOR IOHOPT
Explanation: An MVS OPEN request for IOHOPT DD failed.
System action: The function fails.
User response: For errors related to the OPEN failure in an APPC/MVS initiator, review the MVS SYSLOG where IMS is running. This could include security errors or "DD statement missing" types of MVS errors. Contact IBM Software Support for additional assistance.
Severity: N/A

IOH5016E THE RESPONSE MESSAGE WAS LARGER THAN THE MAXIMUM SIZE PERMITTED
Explanation: The response to an APPC request was larger than the maximum message size permitted by IMS HP Sysgen Tools.
System action: The request is stopped.
User response: Review the MVS SYSLOG on the system where IMS is running for any error messages. Contact IBM Software Support for assistance.
Severity: N/A

IOH5017E NAME/TOKEN SERVICE IEANTCR FAILED WITH RETURN CODE=rc
Explanation: A request to create an MVS name/token returned an unexpected return code.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5018E THE HP SYSGEN PSB NAME DEFINED IN THE SETUP OPTION WAS NOT FOUND
Explanation: The PSB name that was specified in the IMSID options for this IMS system was not found in the IMS online control blocks.
System action: The request fails.
User response: Verify that the proper PSB name was entered in the IMSID options for this IMS subsystem. If it is correct, ensure that the PSB name is included in the IMS system definition.
Severity: N/A

IOH5020E function FAILED FOR IMS INSTALL RC=nn
Explanation: An ENQUEUE or DEQUEUE function, as indicated in the message text, received an unexpected return code.
System action: The requested action fails.
User response: If a Resource Update List installation was in progress when the user attempted to install a second Resource Update List, this error may occur. Contact IBM Software Support for assistance.
Severity: N/A

IOH5021E EXTAEX MACRO FAILED RC=nn REASON=nn
Explanation: An ESTAEX macro received an unexpected return code.
System action: The requested action fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5022E DEVTYPE MACRO FAILED RC=nn REASON=nn
Explanation: A DEVTYPE macro received an unexpected return code.
System action: The requested action fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5023E DEALLOCATION FAILED DD ddbname ERROR CODE=code INFO CODE=code
Explanation: A dynamic allocation deallocation request received an unexpected return code.
System action: The requested action fails.
User response: Review the dynamic allocation error code, and contact IBM Software Support for assistance, if necessary.
Severity: N/A

IOH5024E SDUMP FAILED RC=rc REASON=reason code
Explanation: An MVS SDUMP macro returned with an unexpected return code and/or reason code.
System action: The dump request fails.
User response: Review the MVS SYSLOG where the function failed for additional messages indicating the reason the MVS SVC dump failed.
### IOH5024I  •  IOH5105E

<table>
<thead>
<tr>
<th>Severity</th>
<th>N/A</th>
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</table>

#### IOH5024I  •  IOH5105E

**Severity:** N/A

**Explanation:** This IMS HP Sysgen Tools message shows the results of an APPC Error Extract request for the error message text associated with an APPC error.

**System action:** None.

**User response:** Review the error message text to determine the cause of the APPC failure described by this error. There are additional IMS HP Sysgen Tools error messages that describe the APPC function being performed and the return code from that function.

<table>
<thead>
<tr>
<th>Severity</th>
<th>N/A</th>
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#### IOH5025E  •  IOH5105E

**Severity:** N/A

**Explanation:** MVS Dump Analysis and Elimination services suppressed an SVC dump, probably because a duplicate SVC dump was already taken.

**System action:** An SVC dump is not taken.

**User response:** None.

#### IOH5100I  •  IOH5105E

**Severity:** N/A

**Explanation:** This message contains an APPC error message that is retrieved from the APPC error extract service. IMS HP Sysgen Tools uses this message to show the information that is retrieved from APPC.

**System action:** None.

**User response:** Use the APPC error information in this message in conjunction with the information in message IOH5104E to determine the reason for the APPC call failure.

#### IOH5101E  •  IOH5105E

**Severity:** N/A

**Explanation:** While attempting to issue the IMS command shown in the message text, an APPC/IMS return code indicated that a security error occurred.

**System action:** The request is stopped.

**User response:** Ensure that the authorized user ID specified for this IMSID in the SETUP options has authority to issue the command shown in the message.

#### IOH5102E  •  IOH5105E

**Severity:** N/A

**Explanation:** An MVS LOAD macro failed for the indicated module name. The abend code and return code indicate the reason for the LOAD failure.

**System action:** The request is stopped.

**User response:** Review the reason for the load failure as indicated in the abend code and return code, as well as any additional messages that might be present in the MVS SYSLOG on the system where IMS is running.

#### IOH5103E  •  IOH5105E

**Severity:** N/A

**Explanation:** While attempting to issue the IMS command shown in the message text, an APPC/IMS return code indicated that an APPC/IMS session error occurred.

**System action:** The request is stopped.

**User response:** Review the MVS SYSLOG on the system where IMS is running as well as the IMS MTO log for additional indications of the reason for the APPC/IMS session error. When APPC provides additional error text, it is shown in message IOH5111I. Contact IBM Software Support for assistance.

#### IOH5104E  •  IOH5105E

**Severity:** N/A

**Explanation:** An APPC/IMS request issued to the indicated APPC service module failed with the indicated return code.

**System action:** The request is stopped.

**User response:** Review the MVS SYSLOG on the system where IMS is running as well as the IMS MTO log for additional indications of the reason for the APPC/IMS session error. When APPC provides additional error text, it is shown in message IOH5111I. Contact IBM Software Support for assistance.

#### IOH5105E  •  IOH5105E

**Severity:** N/A

**Explanation:** While attempting to install a Resource Update List, an IMS /MODIFY command (either PREPARE or COMMIT as indicated in the message) did not return a DFS3499I message indicating that the function had completed.

**System action:** The request is stopped.

**User response:** Determine the reason for the failed online change command. Contact IBM Software Support for assistance.

#### IOH5106E  •  IOH5105E

**Severity:** N/A

**Explanation:** While performing an online change for MODBLKS, the /DIS MODIFY ALL command failed to show that there was no work pending.

**System action:** The request is stopped.

**User response:** Contact IBM Software Support for assistance.
IOH5106E  NAME/TOKEN SERVICE IENTRT FAILED WITH RETURN CODE rc

Explanation: The MVS Name/Token service provided an unexpected return code while retrieving the IMS HP Sysgen Tools token.

System action: The request is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH5107E  /MODIFY PREPARE WAS UNSUCCESSFUL-SEE MVS SYSLOG FOR MESSAGES

Explanation: IMS HP Sysgen Tools issued a /MODIFY PREPARE MODBLKS command, but the command failed.

System action: The request is stopped.

User response: Review the MVS SYSLOG on the system where IMS is running for IMS messages indicating the reason for a failure in the /MODIFY PREPARE command that was issued.

Severity: N/A

IOH5108E  /MODIFY COMMIT DID NOT COMPLETE

Explanation: IMS HP Sysgen Tools issued a /MODIFY COMMIT command, but the command failed.

System action: The request is stopped.

User response: Review the MVS SYSLOG on the system where IMS is running and the IMS MTO log for IMS messages indicating the reason for a failure in the /MODIFY COMMIT command that was issued.

Severity: N/A

IOH5110E  UNEXPECTED RESPONSE TO MODIFY type COMMAND

Explanation: The response to an IMS /MODIFY PREPARE or COMMIT command was not the expected response. The message that follows is the response received from IMS.

System action: The request fails.

User response: Review the message that follows this message for the response to the /MODIFY command. Contact IBM Software Support to review the cause of the unexpected response.

Severity: N/A

IOH5201E  UNEXPECTED RESPONSE TO command COMMAND

Explanation: A response to the indicted command was not expected. The message that follows the IOH5201E message shows the unexpected response segment.

System action: The request is stopped.

User response: Review this and the message that follows it (which is the unexpected response text). Contact IBM Software Support for assistance.

Severity: N/A

IOH5202E  AN ERROR OCCURRED LOADING MODULE modname ABEND abcde REASON CODE rc

Explanation: An MVS LOAD macro failed for the indicated module name. The abend code and return code indicate the reason for the LOAD failure.

System action: The request is stopped.

User response: Review the reason for the LOAD failure as indicated in the abend code and return code, as well as any additional messages that might be present in the MVS SYSLOG on the system where IMS is running.

Severity: N/A

IOH5203E  UNEXPECTED RETURN CODE FROM IMS AIB CALL type RETURN CODE retcode REASON CODE reason

Explanation: IMS returned an unexpected return code from an IMS AIB call.

System action: The request is stopped.

User response: Review the reason for the IMS call. The call type, return, and reason codes are shown in the message text. These codes are documented in the IMS Messages and Codes, Volume 1, Appendix E. DL/I Codes.

Severity: N/A

IOH5401E  RACF function ERROR-SAF RC=rc RACF RC=rc RACF REASON=reason

Explanation: The SAF interface returned an unexpected return code for a security validation request. The function might be VRFYUSER (verify a user ID), AUTH (authorization), DELUSER (delete user ID), or VFRFYAUTH (verify authorization).

System action: The request is stopped.

User response: Review the message that follows this message for the response to the RACF command. Contact IBM Software Support to review the cause of the unexpected response.

Severity: N/A

User's Guide
Severity: N/A

**IOH5403E** UNKNOWN FUNCTION PASSED TO IOHZRACF-function

Explanation: The APPC message received did not contain a valid IMS HP Sysgen Tools code in the message text.

System action: The request is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

**IOH5501E** AN ERROR OCCURRED CHECKING AN UPDATE LIST—AN UNKNOWN RESOURCE TYPE WAS ENCOUNTERED-resource

Explanation: The Resource Update List sent to the APPC transaction program contained an unknown resource type in the APPC message.

System action: The installation is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

**IOH5502E** AN ERROR OCCURRED CHECKING AN UPDATE LIST—AN UNKNOWN FUNCTION WAS ENCOUNTERED-code

Explanation: The Resource Update List sent to the APPC transaction program contained an unknown function code in the APPC message.

System action: The installation is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

**IOH5503E** AN MVS function FAILED WITH RETURN CODE rc

Explanation: An MVS POINT or BLDL macro failed with the indicated return code.

System action: The request is stopped.

User response: Review the MVS SYSLOG on the system where IMS is running for additional error messages related to the failure. Contact IBM Software Support for assistance.

Severity: N/A

**IOH5504E** MODBLKS MODULE modname IS INCONSISTENT WITH MATRIX TABLE id

Explanation: The active MODBLKS and MATRIX libraries have an inconsistency in the number of resources defined in the named module name and the MATRIX table id specified in the message text.

System action: The request is stopped.

User response: Ensure that the proper IMS libraries were specified in the SETUP for this IMSID and that the MATRIX libraries have only members that were created in the last IMS security gen process.

Severity: N/A

**IOH5505E** RESOURCE TYPE resource REQUESTED BUT MODBLKS MEMBER modname WAS NOT FOUND

Explanation: A request for the stated resource type was received, but the MODBLKS module that identifies resources of that type was not present in the MODBLKS data set.

System action: The request is stopped.

User response: Contact IBM Software Support for assistance.

Severity: N/A

**IOH5506E** RESOURCE TYPE resource REQUESTED BUT MODBLKS MEMBER modname HAS AN INVALID LENGTH

Explanation: A request for the stated resource type was received, but the MODBLKS module that identifies resources of that type appears to be invalid.

System action: The request is stopped.

User response: Verify that the stated MODBLKS module is valid.

Severity: N/A

**IOH5507E** IMS ONLINE AND MODBLKS HAVE A DIFFERENT NUMBER OF resource

Explanation: The number of resources of the type identified in the message text defined in the active MODBLKS data set and the number present in the IMS online environment are not the same.

System action: The request is stopped.

User response: Verify that the stated MODBLKS module for the stated resource type is valid.

Severity: N/A
IOH5508E • IOH5605E

IOH5508E  VALIDATION FAILED FOR MATRIX TABLE id
Explanation: The MATRIX table loaded from the active MATRIX library did not contain valid header information.
System action: The request is stopped.
User response: Verify that the stated MATRIX module containing the stated table ID is a valid MATRIX table.
Severity: N/A

IOH5509E  MATRIX MEMBER modname WAS NOT FOUND IN THE ACTIVE MATRIX DATASET
Explanation: The stated module name was not found in the active MATRIX library, although definitions appear to have been loaded from the member when IMS was started.
System action: The request is stopped.
User response: Verify that the stated MATRIX module containing the stated table ID is a valid MATRIX table.
Severity: N/A

IOH5510E  A CMD ENTRY IN THE RESOURCE UPDATE LIST HAS AN INVALID SEQUENCE - value
Explanation: The value found in an IMS command entry of a Resource Update List was not a valid value. Only values of BEFORE or AFTER are permitted.
System action: Processing stops.
User response: Verify that IMS command entries in the Resource Update List(s) contain valid values for the command sequence field. The value must be either BEFORE or AFTER. The value found is shown in the message text.
Severity: N/A

IOH5511E  RESOURCE COUNT MISMATCH FOR resource IN matrix MATRIX
Explanation: The number of resources defined in the MATRIX table type identified in the message text does not agree with the number of resources defined in the MODBLKS data set.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5512E  AN EMPTY RESOURCE UPDATE LIST WAS PRESENTED FOR INSTALL
Explanation: An attempt was made to install a Resource Update List which contained no entries.
System action: The requested action fails.
User response: Ensure that any Resource Update List(s) which you specify for the install function is not an empty list.
Severity: N/A

IOH5601E  UNKNOWN DDNAME FOUND IN DDNAME LIST
Explanation: A call to retrieve DDNAME information from the IMS control region contained an unexpected value for one of the DD names specified.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5603E  SETLOCK type FAILED RC=rc
Explanation: An MVS SETLOCK macro request received an unexpected return code. The function (OBTAIN or RELEASE) is also specified in the message text.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5604E  function FOR ECSA FAILED RC=rc
Explanation: An MVS GETMAIN or FREEMAIN macro request received an unexpected return code. The request was for ECSA storage.
System action: The request is stopped.
User response: Review the documentation, including any messages that might be in the MVS SYSLOG on the system where the IMS control region runs. Contact IBM Software Support for assistance.
Severity: N/A

IOH5605E  SRB ERROR IEAMSCHD RC=10
COMPS=synccomp CODE=abend-code REASON=rc (STATUS xxxx)
Explanation: An SRB scheduled to gather information from the IMS control region address space failed due to the abend code and reason code stated in the message text. The status information displayed indicates the
activity type that was being processed at the time of the failure.

System action: The request is stopped.
User response: Review the documentation, including any messages that might be in the MVS SYSLOG on the system where the IMS control region runs. Contact IBM Software Support for assistance.
Severity: N/A

IOH5606E  IEAMSCHD FAILED RC=XX
Explanation: An MVS IEAMSCHD (schedule) macro completed with an unexpected return code.
System action: The request is stopped.
User response: Review the documentation, including any messages that might be in the MVS SYSLOG on the system where the IMS control region runs. Contact IBM Software Support for assistance.
Severity: N/A

IOH5607E  IOHSRB00 FAILED - SEE SYSLOG MESSAGE(S) (STATUS=XXXX)
Explanation: Module IOHSRB00 failed to gather the documentation requested. The status information identifies the activity in progress at the time of the failure.
System action: The request is stopped.
User response: Review the documentation, including any messages that might be in the MVS SYSLOG on the system where the IMS control region runs. Contact IBM Software Support for assistance.
Severity: N/A

IOH5609E  BLDL FAILED RC=rc REASON=reason
Explanation: While attempting to verify the presence of modules DFSVNUC n, DFSISDC n, and DFSVC000 in the IMS control region STEPLIB data sets, an error occurred during the BLDL process. The return code and severity code associated with the BLDL macro are shown.
System action: The request fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5610E  MODULE modname NOT FOUND IN IMS CONTROL REGION STEPLIB
Explanation: While attempting to verify the presence of modules DFSVNUC n, DFSISDC n, and DFSVC000 in the IMS control region STEPLIB data sets, the listed module was not found.
System action: The request fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5711E  DDNAME SEARCH FAILED - type ADDRESS WAS 0
Explanation: Module IOHSRB00 failed to gather the documentation requested. A search for a requested DD name returned a 0 address for control block KSCB, DSABQ, or DSAB1, as identified in the message text.
System action: The request is stopped.
User response: Review the documentation, including any messages that might be in the MVS SYSLOG on the system where the IMS control region runs. Contact IBM Software Support for assistance.
Severity: N/A

IOH5712E  SWAREQ FAILED FOR type RC=rc
Explanation: An MVS SWAREQ macro returned with an unexpected return code while trying to retrieve either the SIOT or a JFCB, as identified in the message text.
System action: The request is stopped.
User response: Review the documentation, including any messages that might be in the MVS SYSLOG on the system where the IMS control region runs. Contact IBM Software Support for assistance.
Severity: N/A

IOH5801E  GETMAIN FAILED FOR SYSID TABLE
Explanation: An MVS GETMAIN macro failed for storage above the 16M line.
System action: The request fails.
User response: Verify that sufficient virtual storage is available to the APPC application programs. The REGION= keyword used in the IOHTPADD job executed at product installation time might be related to this problem.
IOH5802E • IOH6006E

Severity: N/A

IOH5802E ALESERV function FAILED RC=rc
Explanation: An MVS ALESERV macro failed for function ADD or DELETE, as identified in the message text, for addressability to the IMS control region address space.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH5901E ONLINE SYSTEM UPDATES WERE NOT BACKED OUT
Explanation: Removal of a partially installed Resource Update List was unsuccessful.
System action: A partial Resource Update List installation might be left in place.
User response: Review the MVS SYSLOG on the system where the IMS control region runs for messages with associated IMS HP Sysgen Tools. Contact IBM Software Support for assistance.
Severity: N/A

IOH5903E LOAD FAILED FOR MODULE modname RC=rc
Explanation: Removal of a partially installed Resource Update List was unsuccessful.
System action: A partial Resource Update List installation might be left in place.
User response: Review the MVS SYSLOG on the system where the IMS control region runs for messages with associated IMS HP Sysgen Tools. Contact IBM Software Support for assistance.
Severity: N/A

IOH6001E AN ERROR OCCURRED CHECKING AN UPDATE LIST-AN UNKNOWN RESOURCE TYPE WAS ENCOUNTERED-function
Explanation: The Resource Update List sent to the APPC transaction program contained an unknown function code in the APPC message.
System action: The installation is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH6003E resource name function ERROR-RESOURCE condition
Explanation: While attempting to install the named resource definition, an inconsistency was found. The condition that caused the error is identified in the message text.
System action: The installation is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH6004E resource name CONTAINS AN INVALID VALUE FOR option
Explanation: While attempting to install the named resource definition, an inconsistency was found. An invalid value for the option identified in the message text was encountered.
System action: The installation is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH6005E ERROR INSERTING ENTRY IN modname
Explanation: An error occurred while inserting a resource definition entry in the named MODBLKS module.
System action: The installation is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH6006E AN EMPTY RESOURCE UPDATE LIST WAS PRESENTED FOR INSTALL
Explanation: An attempt was made to install a Resource Update List which contained no entries.
System action: The requested action fails.
User response: Ensure that the Resource Update List(s) which you specify for the install function is not empty.
Severity: N/A

IOH6101E  INVALID LOG RECORD LENGTH-reason
Explanation: A request to log an IMS update contained an error in the record, which is indicated in the reason code in the message text.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH6102E  TIME MACRO FAILED RC=rc
Explanation: The MVS TIME macro returned an unexpected return code.
System action: The request is stopped.
User response: Review the return code returned by the MVS TIME macro. Contact IBM Software Support for assistance.
Severity: N/A

IOH6103E  INVALID RESOURCE TYPE IN LOG RECORD-type
Explanation: A request to log an IMS update contained an invalid control block type in the record.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH6104E  AN EMPTY RESOURCE UPDATE LIST WAS PRESENTED FOR INSTALL
Explanation: An attempt was made to install a Resource Update List which contained no entries.
System action: The requested action fails.
User response: Ensure that any Resource Update List(s) which you specify for the install function is not empty.
Severity: N/A

IOH6105E  IOH OPTIONS MODULE modname NOT FOUND
Explanation: The IMS HP Sysgen Tools options module named in the message text was not found.
System action: The request is stopped.
User response: Verify that the named options module is present in the IOHOPT data set on the system where IMS is running. Contact IBM Software Support for assistance.
Severity: N/A

IOH6106E  IOH GROUP DEFINITION MODULE modname IS INVALID code
Explanation: Validation of an IMS HP Sysgen Tools group definition module failed.
System action: The requested action fails.
User response: Ensure that the requested IMS HP Sysgen Tools group module, located in the IOHOPT data set, is a valid group definition module. Contact IBM Software Support for assistance.
Severity: N/A

IOH6201E  OPEN FAILED FOR IOHOPT
Explanation: An attempt to open the IOHOPT data set failed.
System action: The request is stopped.
User response: Review the MVS SYSLOG on the system where IMS is running for additional error messages related to the OPEN failure. Contact IBM Software Support for assistance.
Severity: N/A

IOH6202E  CLOSE FAILED FOR IOHOPT
Explanation: An attempt to close the IOHOPT data set failed.
System action: The request is stopped.
User response: Review the MVS SYSLOG on the system where IMS is running for additional error messages related to the OPEN failure. Contact IBM Software Support for assistance.
Severity: N/A

IOH6204E  IOH OPTIONS MODULE modname IS INVALID
Explanation: The IMS HP Sysgen Tools options module named in the message text is invalid.
System action: The request is stopped.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH6205E  IOH OPTIONS MODULE modname NOT FOUND
Explanation: The IMS HP Sysgen Tools options module named in the message text was not found.
System action: The request is stopped.
User response: Verify that the named options module is present in the IOHOPT data set on the system where IMS is running. Contact IBM Software Support for assistance.
Severity: N/A

IOH6206E  IOH GROUP DEFINITION MODULE modname IS INVALID code
Explanation: Validation of an IMS HP Sysgen Tools group definition module failed.
System action: The requested action fails.
User response: Ensure that the requested IMS HP Sysgen Tools group module, located in the IOHOPT data set, is a valid group definition module. Contact IBM Software Support for assistance.
Severity: N/A

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IOH6207E  IOH GROUP DEFINITION MODULE

modname NOT FOUND

Explanation: The requested IMS HP Sysgen Tools group was not found in the IOHOPT data set.

System action: The requested action fails.

User response: Ensure that the requested IMS HP Sysgen Tools group is a valid group. Check the Group Setup option to verify that the group name is defined.

Severity: N/A

---

IOH6208E  SUPPLIED TARGET NAME name IS NOT A DEFINED IMSID OR GROUP NAME

Explanation: The requested target name was not found in the IOHOPT data set.

System action: The requested action fails.

User response: Ensure that the requested target is a valid IMSID or group. Check the Setup option to verify that the group name or IMSID is defined.

Severity: N/A

---

IOH6209E  AN MVS DELETE FOR OPTIONS MODULE modname FAILED RC=nn

Explanation: An MVS DELETE macro for the named options module returned an unexpected return code.

System action: The requested action fails.

User response: Contact IBM Software Support for assistance.

Severity: U4021

---

IOH6301E  INTERNAL ERROR WRITING OUTPUT - INVALID BUFFER INDICATOR

Explanation: An unexpected condition occurred while writing the JCLIN file.

System action: The job step abends.

User response: Contact IBM Software Support for assistance.

Severity: U4021

---

IOH6302E  INVALID MODULE LENGTH DETECTED FOR MODBLKS MEMBER xxxxxxxxx

Explanation: The length of the MODBLKS module specified in the message was not valid for the release of IMS found in the RESLIB data set.

System action: The job step abends.

User response: Ensure that a valid MODBLKS data set was supplied as input to the IOHJCLIN process and that the RESLIB data set is the same release as the MODBLKS data set. Contact IBM Software Support for assistance.

Severity: U4021

---

IOH6303E  AN ERROR OCCURRED PROCESSING DBD aaaaaaaaa FOR THE VALUE OF THE ppppppppp PARAMETER

Explanation: While trying to interpret the value of the specified parameter for DBD aaaaaaaaa, an unexpected value was encountered.

System action: The job step abends.

User response: Ensure that a valid MODBLKS data set was supplied as input to the IOHJCLIN process and that the RESLIB data set is the same release as the MODBLKS data set. Contact IBM Software Support for assistance.

Severity: U4021

---

IOH6304E  AN ERROR OCCURRED PROCESSING PSB aaaaaaaaa FOR THE VALUE OF THE ppppppppp PARAMETER

Explanation: While trying to interpret the value of the specified parameter for PSB aaaaaaaaa, an unexpected value was encountered.

System action: The job step abends.

User response: Ensure that a valid MODBLKS data set was supplied as input to the IOHJCLIN process and that the RESLIB data set is the same release as the MODBLKS data set. Contact IBM Software Support for assistance.

Severity: U4021
Severity: U4021

IOH6305E  AN ERROR OCCURRED PROCESSING THE TRANSACTION EDIT ROUTINE FOR TRAN

Explanation: The transaction edit routine number found in the SMB definition for the transaction specified was not valid. The transaction edit routine number exceeded the number of transaction edit routines included in the IMS nucleus.

System action: The job step abends.

User response: Ensure that a valid MODBLKS data set was supplied as input to the IOHJCLIN process and that the RESLIB data set is the same release is the MODBLKS data set. Contact IBM Software Support for assistance.

Severity: U4021

IOH6401E  IOH BMP PSB ADDRESS condition

Explanation: There was an error locating the IMS HP Sysgen Tools BMP PSB. The address was missing or invalid.

System action: Processing stops.

User response: Contact IBM Software Support for assistance.

Severity: U4021

IOH6501E  ERROR PARSING INITIATE OLC COMMAND - CODE=nn

Explanation: IMS HP Sysgen Tools failed to successfully parse the output of the initiate OLC command output.

System action: The requested action fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH6502E  IMS SCI function CALL FAILED RC=rc REASON CODE=reason

Explanation: An IMS SCI call received an unexpected return code or reason code.

System action: The requested action fails.

User response: Review the requested SCI function and return/reason codes or contact IBM Software Support for assistance.

Severity: N/A

IOH6521E  GLOBAL OLC PREPARE FAILED FOR IMS insid WITH CONDITION CODE rc

Explanation: IMS HP Sysgen Tools issued a global online change INIT OLC PHASE(PREPARE) TYPE(MODBLKS) command, but received an unexpected return code, as shown in the message text.

System action: The requested action fails.

User response: Review the return code received, or contact IBM Software Support for assistance.

Severity: N/A

IOH6522E  GLOBAL OLC COMMIT FAILED FOR IMS insid WITH CONDITION CODE rc

Explanation: IMS HP Sysgen Tools issued a global online change INIT OLC PHASE(COMMIT) command, but received an unexpected return code, as shown in the message text.

System action: The requested action fails.

User response: Review the return code received, or contact IBM Software Support for assistance.

Severity: N/A

IOH6523E  GLOBAL OLC TERM FAILED FOR IMS insid WITH CONDITION CODE rc

Explanation: IMS HP Sysgen Tools issued a global online change TERM OLC command, but received an unexpected return code, as shown in the message text.
IOH6524E • IOH7104E

**System action:** The requested action fails.

**User response:** Review the return code received, or contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOH6524E** GLOBAL OLC PREPARE HAS WORK PENDING FOR IMS insid

**Explanation:** IMS HP Sysgen Tools encountered an unexpected work pending condition in a **DIS MODIFY ALL** command.

**System action:** The requested action fails.

**User response:** Review the work pending for the named IMSID, and contact IBM Software Support for assistance, if necessary.

**Severity:** N/A

---

**IOH7001E** MATRIX MODULE modname TABLE ID SHOWS num type RESOURCES library

**MODULE modname SHOWS num type RESOURCES DUMMY RESOURCE NAMES WILL BE GENERATED IN CONTROL CARDS**

**Explanation:** An inconsistent number of resources were defined in the MATRIX and either the MODBLKS or RESLIB data set.

**System action:** Dummy resource names (one alphabetic character and a 7-digit number) are generated for names of the resource type that is shown in the message.

**User response:** Verify that the MATRIX, MODBLKS, and RESLIB data sets in use by this reverse MATRIX process have consistent definitions. The MATRIX library must have been created by using the supplied MODBLKS and RESLIB data sets.

**Severity:** N/A

---

**IOH7004E** MATRIX MODULE modname TABLE ID HAS aaa-bbb type ENTRIES library

**MODULE modname SHOWS num type RESOURCES DUMMY RESOURCE NAMES WILL BE GENERATED IN CONTROL CARDS**

**Explanation:** An inconsistent number of resources were defined in the MATRIX and either the MODBLKS or RESLIB data set.

**System action:** Dummy resource names (one alphabetic character and a 7-digit number) are generated for names of the resource type that is shown in the message.

**User response:** Verify that the MATRIX, MODBLKS, and RESLIB data sets in use by this reverse MATRIX process have consistent definitions. The MATRIX library must have been created by using the supplied MODBLKS and RESLIB data sets.

**Severity:** N/A

---

**IOH7101E** LOAD FAILED FOR module RC=nn ABOCODE=code

**Explanation:** An MVS LOAD macro failed due to the indicated return code and abend code.

**System action:** The job fails.

**User response:** Review the reason for the load failure. Ensure that the requested module is present in the STEPLIB data set for the job. Increase the region size that was specified if the job might have run out of private storage.

**Severity:** N/A

---

**IOH7102E** OPEN FAILED FOR DDNAME ddname RC=nn

**Explanation:** An MVS OPEN macro failed with the indicated return code.

**System action:** The job fails.

**User response:** Verify that an appropriate DD statement was specified for the indicated DD name. Review the job’s JESLOG for any indications of a security or other error that might have prevented the data set from opening.

**Severity:** N/A

---

**IOH7103E** CLOSE FAILED FOR DDNAME RC=nn

**Explanation:** An MVS CLOSE macro failed for the indicated DD name and return code.

**System action:** The job fails.

**User response:** Review the job’s JESLOG for any indications of a security or other error that might have prevented the data set from closing.

**Severity:** N/A

---

**IOH7104E** INVALID STATEMENT TYPE - type

**Explanation:** An invalid statement was encountered in the SYSIN statements.

**System action:** The statement is ignored.

**User response:** Review the statement in error. The statement must begin with an asterisk in column 1 (for a comment), or the first word on the line must be VERIFY or INSTALL. If the indicated statement was to be continued from a prior statement, ensure that a comma was specified at the end of the preceding line.

**Severity:** N/A
IOH7105E  INVALID KEYWORD - keyword
Explanation:  An unknown keyword was specified on a SYSIN statement.
System action:  The statement is ignored.
User response:  Review the statement to ensure that the keyword (either NAME= or IMSID=) was specified correctly.
Severity:  N/A

IOH7106E  INVALID VALUE SPECIFIED FOR KEYWORD keyword value
Explanation:  An invalid value was found in a SYSIN statement for the indicated keyword.
System action:  The statement is ignored.
User response:  Review the value that was coded for the specified keyword and correct the error.
Severity:  N/A

IOH7107E  DUPLICATE SPECIFICATION OF KEYWORD keyword
Explanation:  A statement in the SYSIN stream included a duplicate specification of the indicated keyword.
System action:  The statement is ignored.
User response:  Review the statement and remove the redundant specifications of the indicated keyword.
Severity:  N/A

IOH7108E  ERROR PARSING ABOVE STATEMENT
Explanation:  A statement that was read from the SYSIN stream was invalid.
System action:  The statement is ignored.
User response:  Review the statement to determine the cause of the syntax error.
Severity:  N/A

IOH7109E  REQUIRED KEYWORD (IMSID OR NAME) NOT SPECIFIED
Explanation:  A statement that was read from the SYSIN stream did not specify both the IMSID= and NAME= keywords.
System action:  The statement is ignored.
User response:  Review the statement, and supply both the IMSID= and NAME= keywords.
Severity:  N/A

IOH7110E  SECOND OPEN PAREN WITHOUT A CLOSE PAREN
Explanation:  A second open parenthesis was encountered without the first open parentheses being closed. Nested parenthesis are not permitted.
System action:  The statement is ignored.
User response:  Verify that the parentheses that are specified on the statement are balanced. Note that nested parentheses are not permitted.
Severity:  N/A

IOH7111E  CLOSE PAREN WITHOUT AN OPEN PAREN
Explanation:  A closing parenthesis was found before an open parenthesis was encountered.
System action:  The statement is ignored.
User response:  Verify that the parentheses that are specified on the statement are balanced.
Severity:  N/A

IOH7112E  CONTINUATION CARD EXPECTED-BLANK CARD FOUND
Explanation:  A blank line was encountered following a statement that indicated that it was continued.
System action:  The statement is ignored.
User response:  Remove the blank line that is embedded within a continued statement.
Severity:  N/A

IOH7113E  EXPECTED CONTINUATION CARD-NEW STATEMENT FOUND
Explanation:  A new statement was encountered when a continuation was expected.
System action:  The prior statement is ignored.
User response:  Ensure that the prior statement was complete. Complete the statement or remove any commas at the end of the line, and ensure that all open parentheses were closed.
Severity:  N/A

IOH7114E  UNEXPECTED OPEN PAREN ENCOUNTERED
Explanation:  An open parenthesis was encountered when it was not expected.
System action:  The statement is ignored.
User response:  Remove the extraneous open parenthesis.
Severity:  N/A
IOH7115E • IOH7143E

IOH7115E   MULTIPLE IMSID PARAMETERS NOT ALLOWED
Explanation: More than one IMSID was specified on a statement. Only one IMSID can be specified.
System action: The statement is ignored.
User response: Ensure that the statement includes only a single IMSID specification in the IMSID= keyword value.
Severity: N/A

IOH7116E   IMSID EXCEEDS 4 CHARACTERS
Explanation: The IMSID value that was specified is not valid. IMSID lengths are limited to four bytes.
System action: The statement is ignored.
User response: Correct the specification of the IMSID= value.
Severity: N/A

IOH7117E   MORE THAN 256 UPDATE LIST NAMES WERE REQUESTED
Explanation: More that the maximum number of Resource Update List names were specified in a single statement.
System action: The statement is ignored.
User response: Reduce the number of Resource Update List names that are specified in the NAME= specification so that less than 256 names are included.
Severity: N/A

IOH7118E   ERROR IN STATEMENT TYPE FLAG
Explanation: An error occurred while determining the statement type (verify or install) when the prior statement was being processed.
System action: The job abends.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH7119E   STATEMENT SKIPPED DUE TO PRIOR ERROR
Explanation: An error occurred when the prior statement was being processed. The statement was ignored because of the error.
System action: The prior statement was ignored.
User response: Review other error messages describing the reason the statement was skipped.
Severity: N/A

IOH7120E   BOTH IMSID AND TARGET WERE SPECIFIED-USE ONLY ONE OF THESE KEYWORDS
Explanation: Both IMSID= and TARGET= keywords were found in an IOHBLIST job PARM field. These are mutually exclusive parameters.
System action: The job step ends.
User response: Update the PARM= field of the Batch Resource Update List verify/install job step. Ensure that either IMSID= or TARGET= was specified, but not both.
Severity: N/A

IOH7141E   BLDL FOR MEMBER member IN DDNAME IOHPDS FAILED WITH RETURN CODE nn
Explanation: An MVS BLDL macro returned an unexpected return code for the indicated member name.
System action: The request fails.
User response: Check the job's JESLOG and the return code from the MVS BLDL macro to determine the cause of the failure.
Severity: N/A

IOH7142E   REQUESTED IOHPDS MEMBER member WAS NOT FOUND
Explanation: The indicated member name was not found in the IOHPDS data sets.
System action: The request fails.
User response: Ensure that the member name that was specified exists in the IOHPDS data sets that are specified in the job's JCL.
Severity: N/A

IOH7143E   STOW FOR MEMBER member IN DDNAME IOHPDS FAILED WITH RETURN CODE nn
Explanation: An MV STOW macro returned an unexpected return code.
System action: The member will not be updated with new status as a result of the statement that is being processed.
User response: Check the job's JESLOG and the return code from the MVS STOW macro to determine the cause of the failure.
Severity: N/A
IOH7144E  REQUESTED RESOURCE UPDATE LIST(S) HAVE NO UPDATE ENTRIES

Explanation: The Resource Update Lists that were requested in a VERIFY or INSTALL statement had no entries.

System action: The request is ignored.

User response: Ensure that a Resource Update List that contains at least one entry is specified on the statement.

Severity: N/A

IOH7146E  GETMAIN FAILED RC=nn

Explanation: An MVS GETMAIN macro returned an unexpected return code, as indicated in the message text.

System action: The request fails.

User response: Ensure that sufficient region is available in the batch job. Contact IBM Software Support for assistance.

Severity: N/A

IOH7147E  FREEMAIN FAILED RC=nn

Explanation: An MVS FREEMAIN macro returned an unexpected return code, as indicated in the message text.

System action: The request fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH7148E  ENQUEUE FOR IOHPDS DATA SET FAILED RC= nn

Explanation: An MVS ENQUEUE for major name IOHPDS01 and minor name of the IOHPDS data set returned an unexpected return code.

System action: The member will not be updated with new status as a result of the statement being processed.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH7149W  IOHPDS DATA SET IN USE - UNABLE TO UPDATE MEMBER STATUS

Explanation: AN MVS ENQUEUE for major name IOHPDS01 and minor name of the IOHPDS data set indicated that the data set was in use.

System action: The member will not be updated with new status as a result of the statement being processed.

User response: None.

Severity: N/A

IOH7150E  command COMMAND FAILED

Explanation: A VERIFY or INSTALL command failed.

System action: The request failed.

User response: Review the preceding error messages to determine the cause of the failure.

Severity: N/A

IOH7151I  command COMMAND COMPLETED SUCCESSFULLY

Explanation: The indicated request has completed successfully.

System action: Processing continues.

User response: None.

Severity: N/A

IOH7152I  ERROR IN STATEMENT TYPE FLAG

Explanation: An error occurred while determining the statement type (verify or install) when the prior statement was being processed.

System action: The job abends.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOH7153I  RESOURCE UPDATE LIST ENTRIES:

Explanation: The lines that follow this message show the Resource Update List entries that will be processed by the statement.

System action: None.

User response: None.

Severity: N/A

IOH7154E  FIND FOR MEMBER member IN DDNAME IOHPDS FAILED WITH RETURN CODE nn

Explanation: An MVS FIND macro failed with the indicated return code.

System action: The request fails.

User response: Verify that the indicated member name exists in the data sets that were specified for the IOHPDS DD statement.

Severity: N/A
IOH7155E AN ERROR OCCURRED READING MEMBER member -ERROR CODE code

Explanation: An error occurred while reading the indicated member of the IOHPDS data set.
System action: The request fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH7201E AN ERROR OCCURRED CHECKING AN UPDATE LIST- AN UNKNOWN RESOURCE TYPE WAS ENCOUNTERED - xxxx

Explanation: An inconsistency was found while validating the Resource Update List contents in the APPC address space.
System action: The request fails.
User response: Ensure that the Resource Update Lists in progress are valid. Contact IBM Software Support for assistance.
Severity: N/A

IOH7202E AN ERROR OCCURRED CHECKING AN UPDATE LIST- AN UNKNOWN FUNCTION WAS ENCOUNTERED - x

Explanation: An inconsistency was found while validating the Resource Update List contents in the APPC address space.
System action: The request fails.
User response: Ensure that the Resource Update Lists in progress are valid. Contact IBM Software Support for assistance.
Severity: N/A

IOH7203E FIND FAILED FOR type name FOLLOWING INSTALLATION OF UPDATE LIST

Explanation: An error occurred finding the indicated resource while reviewing the results of the installation of a Resource Update List.
System action: Processing continues.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOH7204W ACLIB MEMBER FOR NEW/UPDATED type name WAS NOT FOUND

Explanation: A resource that was updated or added in the Resource Update List did not have a valid ACBLIB member.
System action: Processing continues.
User response: The indicated resource did not have a valid ACBLIB member, and the resource is currently NOTINIT. Perform the appropriate ACBGEN and activate the updated ACBLIB members with an online change for ACBLIB.
Severity: N/A

IOH7205E AN EMPTY RESOURCE UPDATE LIST WAS PRESENTED FOR INSTALL

Explanation: A resource that was updated or added in the Resource Update List did not have a valid ACBLIB member.
System action: The requested action fails.
User response: The indicated resource did not have a valid ACBLIB member, and the resource is currently NOTINIT. Perform the appropriate ACBGEN and activate the updated ACBLIB members with an online change for ACBLIB.
Severity: N/A

IOH7400I IMS /CHANGE COMMAND INTERCEPT PLANTED FOR ACBLIB RELOAD FUNCTION

Explanation: This is an informational message that appears the first time a reload request is encountered after an IMS control region restart.
System action: None.
User response: None.
Severity: N/A

IOH7401E LOAD FAILED FOR MODULE name RC=rc

Explanation: An MVS load for the indicated module name failed with the indicated return code.
System action: The installation of the Resource Update List fails.
User response: This condition should not occur. Contact IBM Software Support for assistance.
Severity: N/A
IOH7402E  LOCATE FOR CVB /CHANGE FAILED
Explanation: IMS HP Sysgen Tools failed to locate the CVB control block associated with the /CHANGE command.
System action: The installation of the Resource Update List fails
User response: This condition should not occur. Contact IBM Software Support for assistance.
Severity: N/A

IOH7403E  LOCATE FOR CDE OF MODULE name FAILED
Explanation: After loading module IOHICL6 x, IMS HP Sysgen Tools must locate the CDE associated with the module. The locate process for the CDE failed.
System action: The installation of the Resource Update List fails
User response: This condition should not occur. Contact IBM Software Support for assistance.
Severity: N/A

IOH7501E  UNABLE TO SET /MODIFY BARRIER - IN USE
Explanation: An online change or display modify command was in progress when an ACBLIB reload was requested. The reload process used by IMS HP Sysgen Tools requires that no online change activity be in progress.
System action: The reload ACBLIB request fails
User response: Ensure that an IMS online change is not in progress by using the /DIS MODIFY ALL or /MODIFY ABORT command. Retry installing the ACBLIB reload when an online change or display modify command is not in progress.
Severity: N/A

IOH7502E  UNABLE TO LOCATE IMS NUCLEUS
Explanation: In order to process an IMS ACBLIB reload request, IMS HP Sysgen Tools must locate the IMS nucleus which is loaded in the IMS control region address space. The CDE entry for the IMS nucleus was not found while scanning the CDE chain in the IMS address space.
System action: The reload ACBLIB request fails
User response: This condition should not occur. Contact IBM Software Support for assistance.
Severity: N/A

IOH7503E  UNABLE TO LOCATE DFSICVD0 OR DFSRMS00
Explanation: IMS HP Sysgen Tools was unable to locate module DFSICVD0 or DFSRMS00 in the IMS nucleus loaded in the IMS control region address space.
System action: The reload ACBLIB request fails
User response: This condition should not occur. Contact IBM Software Support for assistance.
Severity: N/A

IOH7506E  BLDL FAILED FOR ACTIVE ACBLIB
Explanation: A DFSSTS macro requesting a BLDL for the IMS ACBLIB for an ACBLIB reload request returned an unexpected return code of 8 or higher.
System action: The reload ACBLIB request fails
User response: This condition should not occur. Contact IBM Software Support for assistance.
Severity: N/A

IOH7508E  RELOAD FOR ACBLIB MEMBER xxxxxxxx FAILED-MEMBER NOT FOUND IN ACTIVE ACBLIB
Explanation: The indicated ACBLIB member was not found in the active ACBLIB data set.
System action: The reload ACBLIB request fails
User response: Ensure that the member name to be reloaded, as shown in the message text, is present in the active ACBLIB data set concatenation before attempting to reload the ACBLIB member.
Severity: N/A

IOH7509E  RELOAD OF type name FAILED - ACBLIB MEMBER reason.
ACBLIB MEMBER NOT A PSB, ACBLIB MEMBER IS NOTCP, ACBLIB MEMBER NOT A DBD
Explanation: The reload process determined that the named ACBLIB member was not valid for the PSB or DBD being reloaded.
System action: The reload ACBLIB request fails.
User response: Ensure that a valid ACBLIB member has been placed in the active ACBLIB data set before attempting to reload the ACBLIB member. The reason in the message indicates the inconsistency found with the member. It may be NOT A PSB or NOT A DBD, indicating that the member is not a valid ACBLIB member for a PSB or DBD. Or, it may be IS NOTCP, meaning that the ACBLIB member is not compatible with this release of IMS. For NOTCP, ensure that the ACBGEN which created the ACBLIB member was
processed using the same SDFSRESL data set that the IMS control region is using.

**Severity:** N/A

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**IOH7510E**  RELOAD OF type name FAILED - reason, NOT STOPPED, PSB SCHEDULED, DBD OPEN, DBD IS A HALDB PARTITION, DB NOT /DBR'ED, DBD HAS ERROR BLOCKS, DBD IS ACTIVE, DB IS AN MSDB, FP NOT PRESENT, NO OTHREADS PRESENT, DBR IN PROGRESS, RECOVERY IN PROGRESS, DEDB NOT SUPPORTED

**Explanation:** IMS HP Sysgen Tools requires that a database to be reloaded be /DBR'ed, and that a program to be reloaded not be active when the installation of the reload request is attempted. Other conditions that can cause this message include: attempting to reload a HALDB partition (you can only reload the HALDB DBD), attempting to reload a DBD that has error blocks or EEQEs present, attempting to load a DEDB DBD when the IMS subsystem has not been genned for Fast Path or when no OTHREADS are defined. Also, if the DEDB NOT SUPPORTED reason is received, ensure that you have the latest maintenance for IMS HP Sysgen Tools installed.

**System action:** The reload ACBLIB request fails.

**User response:** Review the IMS gen and, if desired, update the definition before running the IMS gen.

**Severity:** 0

---

**IOHA001**  INVALID COMMAND

**Explanation:** The command entered is not valid on this panel.

**System action:** The request is ignored.

**User response:** Review the valid commands listed on the panel and choose a valid command.

**Severity:** N/A

---

**IOHA003**  DATA CONVERSION ERROR

**Explanation:** An error occurred converting a sysgen table variable to display format.

**System action:** The request is stopped.

**User response:** Retain the module name and operation type (read or write) as shown in the long version of this message (obtained by pressing the Help key (usually, PF1)). Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHA004**  INVALID SORT COLUMN

**Explanation:** The SORT command requires a single operand, which must be a column name. The column name specified was missing. You might specify a column name on this panel.

**System action:** The SORT command is ignored.

**User response:** Review the SORT column specified in the message, and provide a valid column name.

**Severity:** N/A
IOHA005  INVALID LOCATE VALUE
Explanation: The LOCATE command requires a single operand, which must be a value to which the list will be scrolled. The value is based on the current SORT column. The value specified for the LOCATE operand must match the type of the column. For a numeric SORT column, a numeric LOCATE value is required.
System action: The LOCATE command is ignored.
User response: Change the operand of the LOCATE command to a valid value for the current sort column.
Severity: N/A

IOHA006  INVALID LINE COMMAND
Explanation: The line command entered is not a valid line command on this panel.
System action: The line command is ignored.
User response: Review the list of valid line commands shown on the panel and use one of these values for the line command.
Severity: N/A

IOHA007  INVALID LINE COMMAND
Explanation: The line command entered is not a valid line command on this panel.
System action: The line command is ignored.
User response: Review the list of valid line commands shown on the panel and use one of these values for the line command.
Severity: N/A

IOHA008  MISSING CMD VALUE
Explanation: The primary command was entered without an operand. The command specified requires an operand.
System action: The command is ignored.
User response: Review the list of valid line commands shown on the panel and use one of these values for the line command.
Severity: N/A

IOHA009  OPTIONS NOT SAVED
Explanation: New IMSID options cannot be saved until IMS environment information is shown on screen two of the IMSID options setup screens.
System action: The new IMSID options module is not created.
User response: When you create a new IMSID, you must enter the required information about at least the first two screens.
Severity: N/A

IOHA010  STOW FAILED
Explanation: An MVS STOW operation failed. The long message (obtained by pressing the Help key (usually, PF1)) shows the member name, operation in progress and the return code and subcode.
System action: The operation is stopped.
User response: There could be a problem with the directory of the IOHPDS data set. Review the MVS SYSLOG on the system where the TSO user is logged on for any related message. Contact IBM Software Support for assistance.
Severity: N/A

IOHA011  DIRECTORY SPACE ERROR
Explanation: There is not sufficient directory space to add a new member to the IOHPDS data set.
System action: The operation is stopped.
User response: Allocate a new IOHPDS data set with more directory space or delete unused members of the IOHPDS data set.
Severity: N/A

IOHA012  MEMBER EXISTS
Explanation: An ADD command was specified with a member name that already exists.
System action: The new member is not created.
User response: When using the ADD command, ensure that the specified member name does not already exist.
Severity: N/A

IOHA013  ENQ FAILED
Explanation: An ADD command was specified with a member name that already exists.
System action: The operation fails.
User response: Obtain the additional information from the long version of this message by pressing the Help key (usually, PF1). Note the QNAME and RNAME and the ENQ return code. Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.
Severity: N/A
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IOHA014</td>
<td>DATASET IN USE</td>
<td>An ENQ macro failed because the resource is in use.</td>
<td>The action is stopped.</td>
<td>Retry the operation. If this does not eliminate this message, determine the holder of the enqueue on the IOHPDS data set (QNAME IOHPDS01), and obtain documentation, such as a dump, for the holder of the enqueue.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA015</td>
<td>INVALID NEW NAME</td>
<td>The specified new member name already exists.</td>
<td>The action is stopped.</td>
<td>Change the new member name to a name that does not already exist.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA016</td>
<td>FIND FAILED</td>
<td>An MVS FIND failed.</td>
<td>The request is stopped.</td>
<td>Obtain diagnostic information from the long message by pressing the Help key (usually, PF1). Provide the member name, return code and subcode as well as the name being written, from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA017</td>
<td>ERROR READING LIST</td>
<td>An error occurred reading the Resource Update List from the IOHPDS data set.</td>
<td>The request fails.</td>
<td>Obtain the error code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA018</td>
<td>ERROR WRITING LIST</td>
<td>An error occurred writing the Resource Update List from the IOHPDS data set.</td>
<td>The request is stopped.</td>
<td>Obtain the error code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA019</td>
<td>NOTE FAILED</td>
<td>An MVS NOTE operation failed.</td>
<td>The request is stopped.</td>
<td>Obtain the NOTE return code and subcode as well as the member being written, from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA020</td>
<td>BLDL FAILED</td>
<td>An MVS BLDL operation failed.</td>
<td>The request is stopped.</td>
<td>Obtain the BLDL return code and member name from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA021</td>
<td>DELETE FAILED</td>
<td>An MVS DELETE macro failed.</td>
<td>The operation fails.</td>
<td>Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA022</td>
<td>IOHPDS DS INVALID</td>
<td>The specified IOHPDS data set is not a valid IOHPDS data set. IOHPDS must have DSORG=PO,RECFM=VB,LRECL=256.</td>
<td>The request fails.</td>
<td>Specify the data set name of a valid IOHPDS data set on the IMS HP Sysgen Tools ISPF primary options menu. Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**IOHA023  RESOURCE NOT FOUND**

**Explanation:** The resource was not found. This might be as a result of a COPY command or as a result of entering an invalid resource name for an UPDATE or DELETE resource list entry.

**System action:** The request is stopped.

**User response:** Provide a valid resource name.

**Severity:** N/A

---

**IOHA024  MISSING NAME**

**Explanation:** The COPY command was entered without an operand. An operand that is the name of an existing resource, must be supplied following the command.

**System action:** The request is stopped.

**User response:** Specify a resource name to copy.

**Severity:** N/A

---

**IOHA025  GETMAIN FAILED**

**Explanation:** An MVS GETMAIN failed.

**System action:** The operation fails.

**User response:** Obtain the failing module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHA026  FREEMAIN FAILED**

**Explanation:** An MVS FREEMAIN macro failed.

**System action:** The operation fails.

**User response:** Obtain the failing module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHA027  FUNCTION FAILED**

**Explanation:** The IOHPDS member processing module returned an unexpected return code.

**System action:** The function fails.

**User response:** Obtain the return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHA028  NAME/TOKEN Svc FAILED**

**Explanation:** An MVS name/token service module failed.

**System action:** The request fails.

**User response:** Obtain the name/token service name and return code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHA029  DATA CONVERSION ERROR**

**Explanation:** An MVS date conversion routine failed with an unexpected return code.

**System action:** The date being converted from internal format to displayable format will display as blank.

**User response:** Use the Help key (PF1) to retrieve the full form of this message in order to find the name of the conversion macro, return code, and member name involved in the error. Contact the IBM Support Center for further assistance.

**Severity:** N/A

---

**IOHA030  INTERNAL ERROR**

**Explanation:** Module IOHDCB was invoked with an invalid parameter list.

**System action:** The operation fails.

**User response:** Obtain the error code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHA031  INVALID OPTION**

**Explanation:** The MODBLKS and RDDS options are not valid for randomizers. You must select INCORE to view randomizers.

**System action:** The request is rejected.

**User response:** Select the INCORE option when requesting a list of DEDB randomizer names.

**Severity:** N/A

---

**IOHA032  NO DATA TO DISPLAY**

**Explanation:** There were no IMS HP Sysgen Tools log records that meet the date criteria; therefore, there were no macros to display.

**System action:** None.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Message Title</th>
<th>Explanation</th>
<th>System action</th>
<th>User response</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IOHA033</td>
<td>SELECT ONLY 1 DEF TYPE</td>
<td>Both MODBLKS and Online definition types were selected. Select only one definition type.</td>
<td>The request is not processed.</td>
<td>Correct the option that was specified on the View selection panel. Select either ONLINE or MODBLKS, but not both.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA034</td>
<td>SELECT A DEFINITION TYPE</td>
<td>You must select either INCORE or MODBLKS definitions to display.</td>
<td>The request is not processed.</td>
<td>Correct the option that was specified on the View selection panel. Select either ONLINE or MODBLKS.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA035</td>
<td>SELECT RESOURCE TYPES</td>
<td>You must select one or both resource types to include in the reverse process. Enter a non-blank character to the left of all the resource types that you want to include.</td>
<td>The request is not processed.</td>
<td>Correct the option that was specified on the reverse sysgen panel. Select one or both resource types to reverse (database or program/transaction/route code).</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA036</td>
<td>INVALID JULIAN DATE</td>
<td>You must supply a valid Julian date for the start and stop dates. Julian dates must be entered in the YYYY.DDD format.</td>
<td>The request is rejected.</td>
<td>Enter a valid Julian date in both the start and stop date fields.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA037</td>
<td>MISSING RECORD TYPES</td>
<td>When you use option 1, you must select at least one history log record type.</td>
<td>Missing Record Types.</td>
<td>The request is rejected.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA038</td>
<td>NO RESOURCES DEFINED</td>
<td>No resources of the type requested are defined in the target IMS system.</td>
<td>None.</td>
<td>Select a resource type that is used in the target IMS system.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA040</td>
<td>MESSAGE ERROR</td>
<td>The BRIF service requested a message that exceeded the number of error messages.</td>
<td>The action is stopped.</td>
<td>Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA041</td>
<td>MESSAGE ERROR</td>
<td>A message of invalid length was received in the module name indicated in the long form of the message.</td>
<td>The request is stopped.</td>
<td>Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA042</td>
<td>RESPONSE ERROR</td>
<td>The response from an APPC transaction did not have a response type specified.</td>
<td>The request is stopped.</td>
<td>Contact IBM Software Support for assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA060</td>
<td>INVALID GROUP MODULE</td>
<td>The group definition module on the system where the TSO user or batch job is running is not a valid group module.</td>
<td>The request fails.</td>
<td>Ensure that the group name specified is a valid group name and that the module in the IOHOPT data set is a valid group module.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
IOHA061  INVALID GROUP MODULE
Explanation:  The group definition module on the system where the IMS subsystem is running is not a valid group module.
System action:  The request fails.
User response:  Ensure that the group name specified is a valid group name and that the module in the IOHOPT data set is a valid group module.
Severity:  N/A

IOHA062  GROUP MODULE NOT FOUND
Explanation:  The group definition module on the system where the TSO user or batch job is running was not found in the IOHOPT data set.
System action:  The request fails.
User response:  Enter a valid IMS HP Sysgen Tools group name.
Severity:  N/A

IOHA063  GROUP MODULE NOT FOUND
Explanation:  The group definition module on the system where IMS is running was not found in the IOHOPT data set.
System action:  The request fails.
User response:  Enter a valid IMS HP Sysgen Tools group name.
Severity:  N/A

IOHA064  INVALID OPTIONS MODULE
Explanation:  Validation of the options module read from the IOHOPT data set failed.
System action:  The request is stopped.
User response:  Verify that the options member in the IOHOPT data set for the specified IMSID is valid. Contact IBM Software Support for assistance.
Severity:  N/A

IOHA065  INVALID OPTIONS MODULE
Explanation:  Validation of the options module read from the IOHOPT data set failed.
System action:  The request is stopped.
User response:  Verify that the options member in the IOHOPT data set for the specified IMSID is valid. Contact IBM Software Support for assistance.
Severity:  N/A

IOHA067  IMSID OPTIONS NOT FOUND
Explanation:  The IMSID options module on the system where the TSO user or batch job is running was not found in the IOHOPT data set.
System action:  The request fails.
User response:  Enter an IMSID that is defined to IMS HP Sysgen Tools. You can review which IMSIDs are defined to IMS HP Sysgen Tools by selecting the Setup option on the IMS HP Sysgen Tools Primary Options menu.
Severity:  N/A

IOHA068  IMSID OPTIONS NOT FOUND
Explanation:  The IMSID options module on the system where IMS is running was not found in the IOHOPT data set.
System action:  The request fails.
User response:  Enter an IMSID that is defined to IMS HP Sysgen Tools. You can review which IMSIDs are defined to IMS HP Sysgen Tools by selecting the Setup option on the IMS HP Sysgen Tools Primary Options menu.
Severity:  N/A

IOHA070  IOHTIME PARAMETER ERROR
Explanation:  An invalid parameter was passed to module IOHTIME.
System action:  The request is rejected.
User response:  Contact the IBM Support Center for assistance.
Severity:  N/A

IOHA071  TIME macro ERROR
Explanation:  The MVS TIME macro returned with an unexpected return code.
System action:  The request is rejected.
User response:  Use the Help key (PF1) to retrieve the full form of this message in order to obtain the return code from the MVS TIME macro. Contact the IBM Support Center for further assistance.
Severity:  N/A

IOHA072  DATA CONVERSION ERROR
Explanation:  The MVS TIME macro returned with an unexpected return code.
System action:  The date being converted from internal format to displayable format will display as blank.
User response:  Use the Help key (PF1) to retrieve the
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full form of this message in order to find the name of
the conversion macro and return code. Contact the IBM
Support Center for further assistance.
Severity: N/A

IOHA080  INVALID RESOURCE FOR REL
Explanation: The resource type selected is invalid for
a RELOAD request. Only programs or databases can be
reloaded.
System action: None.
User response: Correct the value specified for resource
type.
Severity: N/A

IOHA081  COMMAND ERROR
Explanation: There was an error locating the IMS HP
Sysgen Tools BMP PSB. The address found was invalid
or missing.
System action: Processing stops.
User response: Contact IBM Software Support for
assistance.
Severity: N/A

IOHA100  INVALID LENGTH
Explanation: The length specified is invalid. It must
be a valid hexadecimal number between 1 and 1M.
System action: The request fails.
User response: Enter a valid hexadecimal number in
the length field.
Severity: N/A

IOHA101  INVALID REGION ID
Explanation: The region ID entered is not valid. Specify one of the listed region IDs.
System action: The request fails.
User response: Enter a valid region ID - either IMS, DLISAS, or DBRC.
Severity: N/A

IOHA102  MULTIPLE SELECTS
Explanation: More than one field was selected. Select only one field.
System action: The request fails.
User response: Remove entries from all but one selection field.
Severity: N/A

IOHA103  MODULE ERROR
Explanation: An error occurred processing the selected module. This is a software problem and should be reported to IBM Software Support.
System action: The request fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOHA104  INVALID SELECT CHARACTER
Explanation: Use a valid line/field selection character.
System action: The request fails.
User response: Enter a valid selection character. On the storage request panel, this is a D or an S. On the storage display panel, this is a percent sign (%) or a question mark (?).
Severity: N/A

IOHA105  INVALID REQUEST FIELD
Explanation: The request field is missing or contains a syntax error.
System action: The request fails.
User response: Enter a valid value for the address field. See "Specifying an address" on page 91 for details on specifying the address field.
Severity: N/A

IOHA106  INVALID COMMAND
Explanation: The command entered is not valid.
System action: The request fails.
User response: Correct or remove the entry in the Command field.
Severity: N/A

IOHA107  ZAP COMPLETE
Explanation: Storage updates have been installed.
System action: The request fails.
User response: None.
Severity: N/A

IOHA108  INVALID VALUE
Explanation: The updated storage value is not valid. The values must be 0-9 or A-F.
System action: The request fails.
User response: Correct the value entered in the
storage area. The value must be a valid hexadecimal number.

Severity: N/A

IOHA109 TOO MUCH DATA

Explanation: More storage was entered on the ZAP panel than was originally displayed. Excess was deleted.

System action: The request fails.

User response: Ensure that you only enter updated storage information for storage values that were originally displayed on the panel. You cannot add storage by entering additional data at the end of the display.

Severity: N/A

IOHA110 INVALID REGION ID

Explanation: The region ID encoded in the APPC message was invalid.

System action: The request fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOHA111 ALESERV FAILURE

Explanation: An ALESERV macro, which ran in the APPC address space, received an unexpected return code.

System action: The request fails.

User response: Retrieve the long form of this message by pressing the Help key (usually, PF1) to retrieve the ALESERV function and return code. Contact IBM Software Support for assistance.

Severity: N/A

IOHA112 INVALID ADDRESS

Explanation: The address space was not valid.

System action: The request fails.

User response: Enter a valid value for the address field. See "Specifying an address" on page 91 for details on specifying the address field.

Severity: N/A

IOHA113 SYNTAX ERROR IN REQUEST

Explanation: The name included in the request was not valid.

System action: The request fails.

Severity: N/A

IOHA114 NOT FOUND

Explanation: The requested control block was not found.

System action: The request fails.

User response: The name specified for a control block request was not found. Enter a valid control block name or number.

Severity: N/A

IOHA115 SYNTAX ERROR

Explanation: The requested control block was not found.

System action: The request fails.

User response: Enter a valid value for the address field. See "Specifying an address" on page 91 for details on specifying the address field.

Severity: N/A

IOHA116 MODULE LIST TOO LARGE

Explanation: The module list exceeded the space available to return in the APPC message.

System action: The request fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOHA117 REQUEST INVALID

Explanation: The request received in the APPC address space contained a value of 0 for the address length.

System action: The request fails.

User response: Ensure that a valid address and length were specified on the request panel. Contact IBM Software Support for assistance.

Severity: N/A

IOHA118 STORAGE NOT AVAILABLE

Explanation: The requested storage is not available because it has not been getmainted.

System action: The request fails.
User response: The value specified for the address field was not valid because the address requested was not available. Correct the address field so that it specifies a valid value.
Severity: N/A

IOHA119  ZAP REQUEST CANCELLED
Explanation: The ZAP process has been cancelled.
System action: The request fails.
User response: None.
Severity: N/A

IOHA120  VSMLIST FAILED
Explanation: A VSMLIST macro received an unexpected return code.
System action: The request fails.
User response: Retrieve the long form of this message by pressing the Help key (usually, PF1) to retrieve the VSMLIST function and return code. Contact IBM Software Support for assistance.
Severity: N/A

IOHA121  ERROR PROCESSING VSMLIST
Explanation: An error occurred during processing of the output of the VSMLIST macro.
System action: The request fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOHA130  OPTION INVALID
Explanation: The option entered is not a valid option on this panel.
System action: The request is ignored.
User response: Enter a valid option as shown on the panel.
Severity: N/A

IOHA131  OPTION DATA SET REQUIRED
Explanation: The options data set name entered on the panel is invalid or missing.
System action: The request is ignored.
User response: Enter a valid IMS HP Sysgen Tools IOHOPT data set name.
Severity: N/A

IOHA132  INVALID COMMAND
Explanation: The command entered was invalid or was missing the operand of the command (such as an IMSID or group name).
System action: The request is ignored.
User response: Enter a valid command, either Select or Delete. Include the IMSID or group name after the command, for example: $ IMSA.
Severity: N/A

IOHA133  GROUP/IMSID MISSING
Explanation: The command entered was invalid or was missing the operand of the command (such as an IMSID or group name).
System action: The request is ignored.
User response: Enter a valid command, either Select or Delete. Include the IMSID or group name after the command, for example: $ IMSA.
Severity: N/A

IOHA134  INVALID IMSID
Explanation: The IMSID specified on the Select or Delete command was longer than 4 characters. IMSIDs can be a maximum of 4 characters.
System action: The request is ignored.
User response: Enter a valid IMSID.
Severity: N/A

IOHA135  INVALID LINE COMMAND
Explanation: The line command entered is not valid on this panel. Enter S to select the entry, or D to delete the entry.
System action: The request is ignored.
User response: Enter a valid line command, either Select or Delete.
Severity: N/A

IOHA136  ENTRY NOT FOUND
Explanation: The entry name specified on the delete command was not found in the IOHOPT data set.
System action: The request is ignored.
User response: Enter the name of an existing IMSID when entering the delete command.
Severity: N/A
IOHA137  DSN REQUEST FAILED
Explanation: The attempt to gather data set name information from the IMS control region failed.
System action: The request fails.
User response: An error occurred in the IMS HP Sysgen Tools APPC transaction program. For additional HP Sysgen error messages that indicate the reason for the failure, review the MVS SYSLOG on the system where IMS is running.
Severity: N/A

IOHA140  IMSID insid ADDED
Explanation: The requested IMSID options module was added to the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA141  IMSID insid DELETED
Explanation: The requested IMSID options module was deleted from the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA142  IMSID insid UPDATED
Explanation: The requested IMSID options module was updated in the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA143  GROUP name UPDATED
Explanation: The requested group definition was updated in the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA144  GROUP name DELETED
Explanation: The requested group definition was deleted from the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA145  GROUP name ADDED
Explanation: The requested group definition was added to the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA146  Too few IMSIDs selected
Explanation: A group definition must have two or more IMSIDs. You must select at least two IMSIDs or use the CANCEL command to cancel editing a group.
System action: The IMS group is not saved.
User response: Select at least two IMSIDs from the selection list.
Severity: N/A

IOHA147  INVALID COMMAND
Explanation: The command entered on the command line is not valid on this panel. Only the CANcel command is valid.
System action: The request is ignored.
User response: Remove the command from the command line, or enter a valid command.
Severity: N/A

IOHA148  IMSID Update Canceled
Explanation: The editing of IMSID options was canceled by user request.
System action: Any changes to IMSID options are not saved.
User response: None.
Severity: N/A

IOHA149  Group Name Invalid
Explanation: The requested group name is not valid. Group names cannot start with IOH.
System action: The request to create an IMS group is ignored.
User response: To create a new IMS group, specify a name that does not begin with the letters IOH.
Severity: N/A

IOHA150  ERROR-INSTALL IN PROGRESS
Explanation: An install is currently in progress for the IMS subsystem.
System action: The request is ignored.
User response: Try the request again. If the condition persists, determine whether there is an IMS online change in progress.
Severity: N/A

IOHA151 ENQUEUE FAILED
Explanation: An MVS ENQ request failed in module IOHZMAIN.
System action: The request is ignored.
User response: Find the MVS ENQ return code from the long form of the message by pressing the Help key (usually, PF1). Contact IBM Software Support for additional assistance.
Severity: N/A

IOHA160 NO IMS SYSGEN SOURCE
Explanation: IMSID options do not have any sysgen source data sets specified.
System action: The request is ignored.
User response: In order to perform the selected function, the IMS sysgen source data sets must be specified in the IMSID options. Update IMSID options to include the appropriate IMS sysgen source libraries.
Severity: N/A

IOHA161 NO IMS SECURITY SOURCE
Explanation: IMSID options do not have any IMS security gen source data sets specified.
System action: The request is ignored.
User response: In order to perform a security gen, the IMS security gen source data sets must be specified in the IMSID options. Update IMSID options to include the appropriate IMS security gen source libraries, or perform only an IMS sysgen instead of a sysgen and a security gen.
Severity: N/A

IOHA162 TARGET NOT FOUND
Explanation: The requested target name was not found defined in the IOHOPT data set as either an IMSID or a group name.
System action: The request is ignored.
User response: Enter a valid target name. You must specify the name of an IMSID or group which is present in the IOHOPT data set.
Severity: N/A

IOHA163 TARGET NOT FOUND
Explanation: The IMS HP Sysgen Tools APPC transaction program was unable to locate the required IMSID options module.
System action: The request is ignored.
User response: Ensure that the IMSID options module for the IMS subsystem is present on the MVS system where IMS is running. If the options module is present, review the MVS SYSLOG for possible error messages indicating the reason for the failure.
Severity: N/A

IOHA164 INTERNAL ERROR
Explanation: An invalid parameter was passed to module IOHXAPPC. A blank or invalid SYMDEST was supplied.
System action: The request is ignored.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOHA165 INTERNAL ERROR
Explanation: An invalid parameter was passed to module IOHXAPPC. The request byte did not indicate whether a name or SYMDEST was supplied.
System action: The request is ignored.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOHA166 INTERNAL ERROR
Explanation: A request to identify the type of the target name failed. This is an internal error.
System action: The request is ignored.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOHA167 INTERNAL ERROR
Explanation: Unable to locate the ECB that was posted. This is an internal error.
System action: The request is ignored.
User response: Contact IBM Software Support for assistance.
Severity: N/A
IOHA170  IOHOPT BLKSIZE TOO SMALL
Explanation: The block size of the IOHOPT data set is too small. It should be allocated with a block size greater than 4096.
System action: The request is ignored.
User response: Ensure that the block size of the IOHOPT data set is at least 4096 bytes.
Severity: N/A

IOHA181  DELETE FAILED
Explanation: An MVS DELETE by an IMS HP Sysgen Tools APPC transaction program failed.
System action: The requested action fails.
User response: Review the MVS SYSLOG on the MVS system where the IMS subsystem is running for additional error messages that may indicate the cause of the error. The long form of this message indicates the module name and return code and/or abend code for which the MVS DELETE macro experienced the error.
Severity: N/A

IOHA182  LOAD FAILED
Explanation: An MVS LOAD by an IMS HP Sysgen Tools APPC transaction program failed.
System action: The requested action fails.
User response: Review the MVS SYSLOG on the MVS system where the IMS subsystem is running for additional error messages that may indicate the cause of the error. The long form of this message indicates the module name and return code and/or abend code for which the MVS LOAD macro experienced the error.
Severity: N/A

IOHA190  OLCSTAT ERROR
Explanation: An error occurred while parsing the contents of the OLCSTAT data set.
System action: The requested action fails.
User response: Ensure that the OLCSTAT data set has not been corrupted. Contact IBM Software Support for additional assistance.
Severity: N/A

IOHA200  PROFILE name ADDED
Explanation: The requested Profile name was added to the IOHOPT data set with the defaults and options you specified.
System action: None.
User response: None.
Severity: N/A

IOHA201  PROFILE name DELETED
Explanation: The requested Profile name was removed from the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA202  IMSID name UPDATED
Explanation: The requested Profile name was updated in the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA203  USER name UPDATED
Explanation: The requested user definition was updated in the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA204  USER name DELETED
Explanation: The requested user definition was deleted from the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA205  USER name ADDED
Explanation: The requested user definition was added to the IOHOPT data set.
System action: None.
User response: None.
Severity: N/A

IOHA207  INVALID OPTIONS MODULE
System action: The request fails.
User response: Press the Help key (usually PF1) to obtain the module name from the long version of this message. Ensure that the IOHOPT data set is properly...
allocated and that no error(s) occurred loading the specified options module.

**Severity:** N/A

---

**IOHA208  INVALID PROFILE NAME**

**Explanation:** The profile name you requested to be deleted was not found.

**System action:** The request fails.

**User response:** Specify a valid profile name to delete.

**Severity:** N/A

---

**IOHA209  INTERNAL ERROR**

**Explanation:** A table row counter did not agree with the number of rows present in the table.

**System action:** The request fails.

**User response:** Press the Help key (usually, PF1) to see the long version of this message in order to obtain the table name which experienced the problem. Contact the IBM Support Center for further assistance.

**Severity:** N/A

---

**IOHA210  INVALID USER NAME**

**Explanation:** The user name you requested to be deleted was not found.

**System action:** The request fails.

**User response:** Specify a valid user name to delete.

**Severity:** N/A

---

**IOHA211  PROFILE IN USE**

**Explanation:** You attempted to delete a profile entry that was still being used by at least one user entry.

**System action:** The request fails.

**User response:** Press the Help key (usually, PF1) to see the long version of this message in order to obtain the user name which is still using the profile name. Change the user name to use a different profile entry before attempting to delete the profile name.

**Severity:** N/A

---

**IOHA212  INVALID PROFILE NAME**

**Explanation:** The profile name you specified was not found.

**System action:** The request fails.

**User response:** Specify a valid profile name.

**Severity:** N/A

---

**IOHA213  INVALID USER PROFILE**

**Explanation:** The authorization profile associated with your user ID contains an invalid profile name.

**System action:** The request fails.

**User response:** Press the Help key (usually, PF1), to view the long version of this message in order to obtain the user name and profile name which are in error. Change the user entry to specify a valid profile entry.

**Severity:** N/A

---

**IOHA214  PROFILE name SELECTED**

**Explanation:** The default values and the authorization to update resource attributes which are associated with your User ID was obtained from the named profile.

**System action:** None.

**User response:** None.

**Severity:** N/A

---

**IOHA215  USER NAME ALREADY DEFINED**

**Explanation:** The user name you are trying to add is already defined in the user entries.

**System action:** The request fails.

**User response:** Either change the user entry name or edit the existing user entry which is already defined with the user entry name.

**Severity:** N/A

---

**IOHA216  MOVE COMMAND CONFLICT**

**Explanation:** Either more than one line was selected with the M command or more than one line was selected with either the B or A command.

**System action:** The request fails.

**User response:** Ensure that you select only one entry to move with the MOVE (M) command and only 1 line with either the BEFORE (B) or AFTER (A) command.

**Severity:** N/A

---

**IOHA217  NOT AUTHORIZED**

**Explanation:** You are not authorized to view IMS HP Sysgen Tools authorization profiles (Profiles or Users). You do not have read access to IOH.SETUP in class FACILITY.

**System action:** The request fails.

**User response:** Contact your system administrator to gain access to security profile IOH.SETUP in class FACILITY.

**Severity:** N/A
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>System Action</th>
<th>User Response</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IOHA218</td>
<td>AUTHORIZATION ERROR</td>
<td>An error occurred while checking your authorization to view profiles and users. An AUTH request for IOH.SETUP in class FACILITY received an unexpected SAF return code.</td>
<td>The request fails.</td>
<td>Press the Help key (usually PF1), to obtain the SAF return code from the long version of this message. Contact the IBM Support Center for further assistance.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA220</td>
<td>DRD NOT ACTIVE</td>
<td>DRD is not active in the target IMS system.</td>
<td>The request fails.</td>
<td>Do not request DRD-specific information from an IMS system that does not have DRD enabled.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA221</td>
<td>THE RRDS HAS AN INCORRECT IMSID IN THE HEADER RECORD - xxxx</td>
<td>An error occurred in the requested RRDS data set (or the current RRDS data set). The IMSID that is in the header record does not match the current IMSID.</td>
<td>The request fails.</td>
<td>If you specified an RRDS data set name, ensure that the correct data set name was entered. For other requests, review the system RRDS data sets to ensure that RRDS data sets are not being used by more than one IMS system.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA222</td>
<td>THE RRDS HAS AN INVALID STATUS IN THE HEADER RECORD - xxxx</td>
<td>IMS HP Sysgen Tools encountered an unexpected status in the RRDS data set header record.</td>
<td>The request fails.</td>
<td>Review the status in the message text. If this status is valid, contact IBM Software Support.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA223</td>
<td>THE RRDS IS NOT A SYSTEM RRDS</td>
<td>IMS HP Sysgen Tools encountered a non-system RRDS data set. Only system RRDS data sets will be reviewed by IMS HP Sysgen Tools.</td>
<td>The request fails.</td>
<td>If you specified an RRDS data set name, ensure that the correct data set name was entered. For other requests, review the system RRDS data sets to ensure that RRDS data sets are not being used by more than one IMS system.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA224</td>
<td>THE VERSION NUMBER IN THE RRDS HEADER RECORD IS UNKNOWN</td>
<td>IMS HP Sysgen Tools encountered an invalid RRDS data set.</td>
<td>The request fails.</td>
<td>Contact IBM Software Support.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA225</td>
<td>RDDS DATA SET HAS NO RECORDS</td>
<td>IMS HP Sysgen Tools encountered an invalid RDDS data set.</td>
<td>The request fails.</td>
<td>If you specified an RDDS data set name, ensure that the correct data set name was entered. For other requests, review the system RDDS data sets to ensure that the RDDS data sets are valid.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA226</td>
<td>RDDS DOES NOT HAVE A VALID HEADER RECORD</td>
<td>IMS HP Sysgen Tools encountered an invalid RDDS data set.</td>
<td>The request fails.</td>
<td>If you specified an RDDS data set name, ensure that the correct data set name was entered. For other requests, review the system RDDS data sets to ensure that the RDDS data sets are valid.</td>
<td>N/A</td>
</tr>
<tr>
<td>IOHA227</td>
<td>THE RRDS CONTAINED AN UNEXPECTED RECORD TYPE xxxx</td>
<td>IMS HP Sysgen Tools encountered an RDDS data set that contained a record type that was not expected in an RDDS data set. The record type is included in the message text.</td>
<td>The request fails.</td>
<td>If you specified an RDDS data set name, ensure that the correct data set name was entered. For other requests, review the system RDDS data sets to ensure that the RDDS data sets are valid.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
User response: If you specified an RDDS data set name, ensure that the correct data set name was entered. For other requests, review the system RDDS data sets to ensure that the RDDS data sets are valid.

Severity: N/A

IOHA228  IMS uses over 24 RDDS DSNs

Explanation: IMS HP Sysgen Tools expects 24 or less IMS system RDDS data sets per IMS system. The target IMS system has more than 24 system RDDS data sets defined.

System action: The request fails.

User response: Contact IBM Software Support if you require more than 24 system RDDS data sets.

Severity: N/A

IOHA229  No RDDS data sets found

Explanation: The target IMS system is not running, and the IMSID options for the target IMS system indicates that DRD is not active.

System action: The request fails.

User response: Try the request again when IMS is available.

Severity: N/A

IOHA230  Too many rows selected

Explanation: IMS HP Sysgen Tools allows you to select only one RDDS data set at a time.

System action: The request fails.

User response: Select only one RDDS data set.

Severity: N/A

IOHA231  No valid RDDS found

Explanation: None of the RDDS data sets retained in the IMSID setup options are valid. Update the IMSID options when IMS is available.

System action: The request fails.

User response: Update the IMSID setup options when IMS is active or try the request again when IMS is available.

Severity: N/A

IOHB000  ISPF VDEFINE FAILED

Explanation: A request to run the ISPF VDEFINE service returned an unexpected return code.

System action: The requested action fails.

User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

Severity: N/A

IOHB001  ISPF DISPLAY FAILED

Explanation: A request to run the ISPF DISPLAY service returned an unexpected return code.

System action: The requested action fails.

User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

Severity: N/A

IOHB002  ISPF SETMSG FAILED

Explanation: A request to run the ISPF SETMSG service returned an unexpected return code.

System action: The requested action fails.

User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

Severity: N/A

IOHB003  ISPF TBEND FAILED

Explanation: A request to run the ISPF TBEND service returned an unexpected return code.

System action: The requested action fails.

User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

Severity: N/A

IOHB004  ISPF TBCREATE FAILED

Explanation: A request to run the ISPF TBCREATE service returned an unexpected return code.

System action: The requested action fails.

User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

Severity: N/A
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**IOHB005**  ISPF TBADD FAILED

*Explanation:* A request to run the ISPF TBADD service returned an unexpected return code.

*System action:* The requested action fails.

*User response:* Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A

**IOHB006**  ISPF TBTOP FAILED

*Explanation:* A request to run the ISPF TBTOP service returned an unexpected return code.

*System action:* The requested action fails.

*User response:* Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A

**IOHB007**  ISPF TBDISPL FAILED

*Explanation:* A request to run the ISPF TBDISPL service returned an unexpected return code.

*System action:* The requested action fails.

*User response:* Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A

**IOHB008**  ISPF TBDELETE FAILED

*Explanation:* A request to run the ISPF TBDELETE service returned an unexpected return code.

*System action:* The requested action fails.

*User response:* Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A

**IOHB009**  ISPF TBMOD FAILED

*Explanation:* A request to run the ISPF TBMOD service returned an unexpected return code.

*System action:* The requested action fails.

*User response:* Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A

**IOHB010**  ISPF TBSORT FAILED

*Explanation:* A request to run the ISPF TBSORT service returned an unexpected return code.

*System action:* The requested action fails.

*User response:* Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A

**IOHB011**  ISPF TABLE IN USE

*Explanation:* A request to run the ISPF TBCREATE service failed because the ISPF table name was already in use.

*System action:* The requested action fails.

*User response:* Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A

**IOHB012**  ISPTLIB NOT AlLOC

*Explanation:* A request to run the ISPF TBCREATE service failed because the ISPF table library was not allocated.

*System action:* The requested action fails.

*User response:* Ensure that the IMS HP Sysgen Tools table library (IOHTLIB) is allocated to file IOHTLIB. Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A

**IOHB013**  ISPF TBOpen FAILED

*Explanation:* A request to run the ISPF TBOpen service returned an unexpected return code.

*System action:* The requested action fails.

*User response:* Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

*Severity:* N/A
IOHB014  ISPF TABLE NOT FOUND
Explanation: A request to run the ISPF TBOPEN service failed because the requested ISPF table was not found in the ISPF table library.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB015  ISPF TBCLOSE FAILED
Explanation: A request to run the ISPF TBCLOSE service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB016  ISPF TBGET FAILED
Explanation: A request to run the ISPF TBGET service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB017  ISPF CONTROL FAILED
Explanation: A request to run the ISPF CONTROL service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB018  ISPF TBBOTTOM FAILED
Explanation: A request to run the ISPF TBBOTTOM service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB019  ISPF TBSCAN FAILED
Explanation: A request to run the ISPF TBSCAN service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB020  ISPF VPUT FAILED
Explanation: A request to run the ISPF VPUT service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB021  ISPF TBSKIP FAILED
Explanation: A request to run the ISPF TBSKIP service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB022  ISPF VGET FAILED
Explanation: A request to run the ISPF VGET service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB023  ISPF TBPUT FAILED
Explanation: A request to run the ISPF TBPUT service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

Severity: N/A

IOHB024 ISPF FTOPEN FAILED
Explanation: A request to run the ISPF FTOPEN service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB025 ISPF FTINCL FAILED
Explanation: A request to run the ISPF FTINCL service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB026 ISPF FTCLOSE FAILED
Explanation: A request to run the ISPF FTCLOSE service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB027 ISPF BROWSE FAILED
Explanation: A request to run the ISPF BROWSE service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB028 ISPF TBQUERY FAILED
Explanation: A request to run the ISPF TBQUERY service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB029 ISPF BRIF FAILED
Explanation: A request to run the ISPF Browse Interface (BRIF) service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB030 ISPF VCOPY FAILED
Explanation: A request to run the ISPF VCOPY service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB031 ISPF VREPLACE FAILED
Explanation: A request to run the ISPF VREPLACE service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHB032 ISPF EDIT REQUEST FAILED
Explanation: A request to run the ISPF EDIT service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A
Severity: N/A

IOHB033 ISPF EDIF REQUEST FAILED
Explanation: A request to run the ISPF EDIF (edit interface) service returned an unexpected return code.
System action: The requested action fails.
User response: Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHC000 CLOSE ABENDED
Explanation: An attempt to close a file abended.
System action: The request fails.
User response: Obtain the DD name, data set type, and abend code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.
Severity: N/A

IOHC001 INTERNAL ERROR
Explanation: An invalid parameter was passed to module IOHMBLK.
System action: The request fails.
User response: Obtain the function type from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHC002 OPEN FAILED
Explanation: An attempt to open a file failed.
System action: The request fails.
User response: Obtain the DD name, data set type, and abend code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.
Severity: N/A

IOHC003 OPEN ABENDED
Explanation: An attempt to open a file abended.
System action: The request fails.
User response: Obtain the DD name, data set type, and abend code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.
Severity: N/A

IOHC004 CLOSE FAILED
Explanation: IMS HP Sysgen Tools received an unexpected return code when closing a data set. The return code and data set are shown in the long form of the error message obtained by pressing the Help Key (usually, PF1).
System action: The request fails.
User response: Review the MVS SYSLOG on the system where the TSO user or batch job is running for other indications of a problem during the close process. Contact IBM Software Support for additional assistance.
Severity: N/A

IOHC005 ALLOCATION FAILED
System action: The request fails.
User response: Obtain the DD name, data set type, and abend code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHC006 DEALLOCATION FAILED
Explanation: Deallocation of a data set failed.
System action: The request fails.
User response: Obtain the DD name, data set type, and abend code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHC007 UNKNOWN IMS RELEASE
Explanation: An unknown or unsupported release of IMS was encountered.
System action: The request fails.
User response: Obtain the release of IMS found in DFSVC000 from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A
IOHC008  LOAD FAILED
Explanation:  An MVS LOAD macro failed.
System action:  The request fails.
User response:  Obtain the module name and abend code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.
Severity:  N/A

IOHC009  INVALID MODBLKS MOD
Explanation:  The length of a MODBLKS module was not valid for the release of IMS found in the IMS RESLIB.
System action:  The request fails.
User response:  Obtain the MODBLKS module name and abend code from the long version of this message by pressing the Help key (usually, PF1). Verify that the MODBLKS module is valid. Contact IBM Software Support for assistance.
Severity:  N/A

IOHC010  INVALID MODBLKS
Explanation:  An error occurred interpreting a DBD definition loaded from the MODBLKS data set.
System action:  The request fails.
User response:  Obtain the DBD name and the attribute name from the long version of this message by pressing the Help key (usually, PF1). Verify that the MODBLKS module is valid for this version of IMS. Contact IBM Software Support for assistance.
Severity:  N/A

IOHC011  INVALID MODBLKS
Explanation:  An error occurred interpreting a PSB definition loaded from the MODBLKS data set.
System action:  The request fails.
User response:  Obtain the PSB name and the attribute name from the long version of this message by pressing the Help key (usually, PF1). Verify that the MODBLKS module is valid for this version of IMS. Contact IBM Software Support for assistance.
Severity:  N/A

IOHC012  TRAN EDIT NAME ERROR
Explanation:  The transaction edit routine number obtained from the MODBLKS data set was not valid. The edit routine number exceeded the number of edit routines included in the RESLIB data set in the last IMS CTLBLKS or higher sysgen.
System action:  The request fails.
User response:  Obtain the tran code and edit routine number from the long version of this message by pressing the Help key (usually, PF1). Verify that the proper RESLIB library is being used for this MODBLKS data set. Contact IBM Software Support for assistance.
Severity:  N/A

IOHC013  MACRO FORMAT ERROR
Explanation:  An unknown attribute value was encountered while converting a resource definition back to IMS sysgen source.
System action:  The request fails.
User response:  Obtain the resource type and name and the attribute being formatted from the long version of this message by pressing the Help key (usually, PF1). Verify that the proper RESLIB library is being used for this MODBLKS data set. Contact IBM Software Support for assistance.
Severity:  N/A

IOHC014  MACRO FORMAT ERROR
Explanation:  An invalid parameter was passed to module IOHFMAC.
System action:  The request fails.
User response:  Contact IBM Software Support for assistance.
Severity:  N/A

IOHC015  MEMBER NAME REQUIRED
Explanation:  A PDS data set was specified for output, but a member name was not specified.
System action:  The request is stopped.
User response:  When specifying a PDS as the output data set, ensure that a member name is included in the data set name specified.
Severity:  N/A

IOHC016  INVALID BLKSIZE
Explanation:  The LRECL of the output data set specified was not 80.
System action:  The request is stopped.
Verify that the output data set has an LRECL of 80. Either reallocate the output data set, or select a different data set with a LRECL of 80.

Severity: N/A

IOHC017 BUFFERING ERROR
Explanation: An internal error occurred while processing buffers for the input file.
System action: The request fails.
User response: Contact IBM Software Support for assistance.
Severity: N/A

IOHC018 MISSING OPTION
Explanation: The option field was missing.
System action: The request is stopped.
User response: Supply a valid option.
Severity: N/A

IOHC019 INVALID OPTION
Explanation: The option selected was not a valid option value.
System action: The request is stopped.
User response: Supply a valid option.
Severity: N/A

IOHC020 INVALID MATRIX
Explanation: MATRIX table verification failed.
System action: The request fails.
User response: Obtain the MATRIX table name from the long version of this message by pressing the Help key (usually, PF1). Verify that a valid MATRIX data set was specified. Contact IBM Software Support for assistance.
Severity: N/A

IOHC021 INVALID MATRIX
Explanation: A member required for reverse matrix processing was not found in the MATRIX data set.
System action: The request fails.
User response: Obtain the member name in error from the long version of this message by pressing the Help key (usually, PF1). Review the previous IMS security gen to ensure that it was successful. Contact IBM Software Support for assistance.
Severity: N/A

IOHC022 INVALID PSWD MATRIX
Explanation: Validation of the password for MATRIX members failed.
System action: The request fails.
User response: Review the previous IMS security gen to ensure that it was successful. Contact IBM Software Support for assistance.
Severity: N/A

IOHC024 ERROR OBTAINING DSNs
Explanation: In order to process the request, IMS HP Sysgen Tools verifies that the data set names in the IMSID options match the data set names currently in use by the IMS control region. An error occurred while obtaining the data set names currently in use.
System action: The request being processed fails.
User response: Review the MVS SYSLOG on the LPAR where IMS executes for IOH error messages that indicate the nature of the problem. Either populate the data set names on the setup panel yourself, or correct the problem and retry setup.
Severity: N/A

IOHC025 HP SYSGEN PSB INVALID
Explanation: While attempting to process the request, validation of the PSB name that was specified in the IMSID options failed.
System action: The request fails.
User response: Ensure that the proper PSB name is specified in the IMSID options for the requested IMS system. If the PSB name is correct, ensure that the PSB name is included in the IMS system definition.
Severity: N/A

IOHC026 GEN SRC UPDATED
Explanation: The GEN SRC flag, which indicates that the IMS sysgen source has been updated to reflect this log entry, was updated as requested.
System action: Processing continues.
User response: None.
Severity: N/A

IOHC027 INVALID DFSVC000
Explanation: Module DFSVC000 loaded from RESLIB was invalid.
System action: The request fails.
User response: Ensure that a valid RESLIB data set
name was specified. Contact IBM Software Support for assistance.

Severity: N/A

IOHC028  IOHXGEN PARM ERROR
Explanation: IOHXGEN was called without a value set for variable IOHLINK, which should be set by the IOH@PRIM Primary Options menu.
System action: The request is stopped.
User response: Ensure that any modifications to the IOH@PRIM Primary Options menu did not interfere with ISPF variable IOHLINK. Contact IBM Software Support for assistance.
Severity: N/A

IOHC029  CLEANUP ERROR
Explanation: An error occurred while performing cleanup for open files and freeing storage.
System action: The request is stopped.
User response: Review the sysgen output for any additional messages indicating the reason for the cleanup failure. Contact IBM Software Support for assistance.
Severity: N/A

IOHC030  SYSGEN ERRORS
Explanation: One or more IMS sysgen errors were found while performing the IMS Fastgen process.
System action: The request is stopped.
User response: Review the output of the Fastgen process to identify the errors. Finding the letters IOH in column 1 of the output will find error messages.
Severity: N/A

IOHC031  LINKEDIT ERRORS
Explanation: One or more Link edit errors were found while performing the IMS Fastgen process.
System action: The request is stopped.
User response: Review the output of the Fastgen process to identify the errors. Finding the letters IOH in column 1 of the output will find error messages.
Severity: N/A

IOHC032  SECURITY GEN ERRORS
Explanation: IMS security gen errors were found while performing the IMS Fastgen process.
System action: The request is stopped.
User response: Review the output of the Fastgen process to identify the errors. Finding the letters IOH in column 1 of the output will find error messages.
Severity: N/A

User response: Review the output of the Fastgen process to identify the errors. Finding the letters IOH in column 1 of the output will find error messages.
Severity: N/A

IOHC033  GETMAIN ERROR
Explanation: An error occurred during an internal storage manager GETMAIN request.
System action: The request fails.
User response: Obtain the pseudo module name for which the GETMAIN was being performed from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.
Severity: N/A

IOHC034  FREEMAIN ERROR
Explanation: An error occurred during an internal storage manager FREEMAIN request.
System action: The request fails.
User response: Obtain the pseudo module name for which the FREEMAIN was being performed from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.
Severity: N/A

IOHC035  INTERNAL ERROR
Explanation: An error occurred during processing of the MODSTAT data set.
System action: The request fails.
User response: Ensure that a proper MODSTAT data set name was specified in the SETUP option for this IMSID. Contact IBM Software Support for assistance.
Severity: N/A

IOHC036  FUNCTION ERROR
Explanation: An error occurred during processing of an internal storage manager request.
System action: The request fails.
User response: Obtain the pseudo module name in error from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.
Severity: N/A
IOHC037  FUNCTION ERROR

Explanation: An ENQ or DEQ operation failed.

System action: The request fails.

User response: Obtain the data set type and return code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the TSO user is logged on for any related messages. Contact IBM Software Support for assistance.

Severity: N/A

IOHC038  DATA SET IN USE

Explanation: An enqueue failed for major name DFSOC001

System action: The request fails.

User response: Ensure that an IMS online change for MODBLKS is not in progress. Also, ensure that the same MODBLKS or MATRIX data sets are not shared among multiple IMS systems.

Severity: N/A

IOHC039  DDNAME NOT FOUND

Explanation: An attempt to locate the TIOT entry for a DD name failed.

System action: The request fails.

User response: Obtain the DD name from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

Severity: N/A

IOHC040  SWAREQ FAILED

Explanation: An MVS SWAREQ macro failed.

System action: The request fails.

User response: Obtain the return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.

Severity: N/A

IOHC041  CONCATENATION FAILED

Explanation: A dynamic concatenation request failed.

System action: The request is stopped.

User response: Obtain the data set type and return codes from the long version of this message by pressing the Help key (usually, PF1). Review ISPF Appendix A by pressing the Help key on the ISPF Primary Options menu to determine the reason for the error code reported in the long message. Contact IBM Software Support for assistance.

Severity: N/A

IOHC042  UNSUPPORTED ENVIRONMENT

Explanation: IMS includes Global Online Change. IMS HP Sysgen Tools does not support this environment.

System action: The request is rejected.

User response: Verify that the IMS system that was specified uses Global Online Change. Remove this option if you want to use HP Sysgen Tools.

Severity: N/A

IOHC043  INCONSISTENT MODBLKS

Explanation: The number of resources defined in MODBLKS module DFSISDB $x$ does not match the number of resources defined in the MODBLKS resource definition module.

System action: The request is stopped.

User response: Obtain the member names in error from the long version of this message by pressing the Help key (usually, PF1). Ensure that the MODBLKS data set contains valid modules. Contact IBM Software Support for assistance.

Severity: N/A

IOHC044  INCONSISTENT MODBLKS

Explanation: The names of resources defined in MODBLKS module DFSISDB $x$ does not match the number of resources defined in the MODBLKS resource definition module.

System action: The request is stopped.

User response: Obtain the member names in error from the long version of this message by pressing the Help key (usually, PF1). Ensure that the MODBLKS data set contains valid modules. Contact IBM Software Support for assistance.

Severity: N/A

IOHC045  MEMBER INVALID

Explanation: The ZAP process has been cancelled.

System action: The request fails.

User response: Verify that the proper data set name was specified for the output data set. If the data set is not a PDS, omit the member name from the data set specification.

Severity: N/A
IOHC046  CONCATENATION INVALID

Explanation: IMS sysgen source or security gen source data sets specified in the IMSID options have inconsistent DSORGs.
System action: The request fails.
User response: Review the IMS sysgen and security gen data set names specified in the IMSID setup options. When multiple data sets are specified, all the data sets must either be sequential data sets or PDS data sets.
Severity: N/A

IOHC048  OUTPUT DATA SET INVALID

Explanation: The output DSN specified has invalid DCB parameters. DCB information must be LRECL=133, RECFM=FBA with an appropriate BLKSIZE.
System action: The request fails.
User response: Review the DCB information for the output data set specified on the screen. Ensure that the LRECL is 133, the RECFM is FBA, and that the block size is a multiple of 133.
Severity: N/A

IOHC049  OUTPUT DATA SET INVALID

Explanation: The output DSN specified has invalid DCB parameters. DCB information must be LRECL=133, RECFM=FBA with an appropriate BLKSIZE.
System action: The request fails.
User response: Correct the output data set name that was specified on the screen to specify a data set that is allocated with RECFM=FB, LRECL=80, and a block size that is a multiple of 80.
Severity: N/A

IOHD001  INCOMPATIBLE OPTIONS

Explanation: Both RESIDENT and DOPT cannot be specified.
System action: None.
User response: Select either RESIDENT or DOPT (or neither), but not both.
Severity: N/A

IOHD002  INCOMPATIBLE OPTIONS

Explanation: Both DOPT and SCHDTYP=PARALLEL cannot be specified.
System action: None.
User response: Select either DOPT or PARALLEL for SCHDTYP, but not both.
Severity: N/A

IOHD003  INCOMPATIBLE OPTIONS

Explanation: Both FPATH=YES and SCHDTYP=PARALLEL cannot be specified.
System action: None.
User response: Select either YES for FPATH or PARALLEL for SCHDTYP, but not both.
Severity: N/A

IOHD004  INCOMPATIBLE OPTIONS

Explanation: Both FPATH=YES and LANG=JAVA cannot be specified.
System action: None.
User response: Select either YES for FPATH or JAVA for LANG, but not both.
Severity: N/A

IOHD005  INCOMPATIBLE OPTIONS

Explanation: Both FPATH=YES and PGMTYPE=BATCH cannot be specified.
System action: None.
User response: Select either YES for FPATH or BATCH for PGMTYPE, but not both.
Severity: N/A

IOHD006  INCOMPATIBLE OPTIONS

Explanation: Both GPSB and DOPT or RESIDENT cannot be specified.
System action: None.
User response: Select GPSB NO or BATCH with either RESIDENT or DOPT.
Severity: N/A

IOHD007  INCOMPATIBLE OPTIONS

Explanation: Both FPATH=YES and PGMTYPE=BATCH cannot be specified.
System action: None.
User response: Select either YES for FPATH or BATCH for PGMTYPE, but not both.
Severity: N/A
INCOMPATIBLE OPTIONS

Explanation: LANGUAGE must be blank except when GPSB is YES.
User response: Specify a language only when GPSB is specified as YES. Otherwise, LANG must be blank.
Severity: N/A

INVALID VALUE

Explanation: The RESIDENT field must be either YES or NO.
User response: Specify either YES or NO for the RESIDENT field.
Severity: N/A

Explanation: The DOPT field must be either YES or NO.
User response: Specify either YES or NO for the DOPT field.
Severity: N/A

Explanation: The GPSB field must be either YES or NO.
User response: Specify either YES or NO for the GPSB field.
Severity: N/A

Explanation: The FPATH field must be either YES or NO.
User response: Specify either YES or NO for the FPATH field.
Severity: N/A

Explanation: The SECURITY field must be specified as NONE, AGN, PASSWORD, or BOTH.
User response: Specify a valid value for the SECURITY field.
Severity: N/A

Explanation: The TRANSTAT field must be YES or NO.
User response: Specify either YES or NO for the TRANSTAT field.
Severity: N/A

Explanation: The specified resource name was not found in this IMS subsystem.
User response: Change the resource name to a valid resource name in the specified IMS subsystem.
Severity: N/A
IOHD021 resource ALREADY DEFINED
Explanation: The specified resource name is already defined in this IMS subsystem.
System action: None.
User response: Change the resource name to a name that is not already defined in the specified IMS subsystem.
Severity: N/A

IOHD022 resource NOT FOUND
Explanation: The resource name specified in the COPY command was not found in this IMS subsystem.
System action: None.
User response: Change the resource name to copy to a resource name defined in the specified IMS subsystem.
Severity: N/A

IOHD023 ERROR OBTAINING RESOURCE
Explanation: An error occurred retrieving attributes for the specified resource.
System action: None.
User response: Review the MVS SYSLOG on the system where the IMS control region is running for error messages indicating the reason for the failure.
Severity: N/A

IOHD100 INVALID VALUE
Explanation: The RESIDENT field must be specified as either YES or NO.
System action: None.
User response: Specify either YES or NO for the RESIDENT field.
Severity: N/A

IOHD101 INVALID VALUE
Explanation: The ACCESS field must be specified as one of the following: RO, RD, UP, or EX.
System action: None.
User response: Specify RO, RD, UP, or EX for the ACCESS field.
Severity: N/A

IOHD200 INVALID VALUE
Explanation: The INQUIRY field must be specified as either YES or NO.
System action: None.
IOHD305  INVALID VALUE
Explanation: The MAXRGN field must be specified as a number between 0 and 255. Zero is the default and should be used if the MAXRGN parameter has not been specified in the IMS sysgen TRANSACT macro.
System action: None.
User response: Specify a number between 0 and 255 for the MAXRGN field.
Severity: N/A

IOHD306  INVALID VALUE
Explanation: The MODE field must be specified as either MULT or SNGL.
System action: None.
User response: Specify MULT or SNGL for the MODE field.
Severity: N/A

IOHD307  INVALID VALUE
Explanation: The MSGTYPE field must be specified as either SNGLSEG or MULTSEG.
System action: None.
User response: Specify SNGLSEG or MULTSEG for the MSGTYPE field.
Severity: N/A

IOHD308  INVALID VALUE
Explanation: The RESPONSE field must be specified as either YES (for response) or NO (for nonresponse).
System action: None.
User response: Specify YES or NO for the RESPONSE field.
Severity: N/A

IOHD309  INVALID VALUE
Explanation: The CLASS field must be specified as a number between 1 and 999.
System action: None.
User response: Specify a number between 1 and 999 for the CLASS field.
Severity: N/A

IOHD310  INVALID VALUE
Explanation: The PARLIM field must be specified as either NONE or as a number between 0 and 32767.
System action: None.
User response: Specify NONE or a number between 0 and 32767 for the PARLIM field.
Severity: N/A

IOHD311  INVALID VALUE
Explanation: The PROCLIM COUNT field must be specified as a number between 0 and 65535.
System action: None.
User response: Specify a number between 0 and 65535 for the COUNT field.
Severity: N/A

IOHD312  INVALID VALUE
Explanation: The PROCLIM SECONDS field must be specified as a number between 1 and 65535.
System action: None.
User response: Specify a number between 1 and 65535 for the SECONDS field.
Severity: N/A

IOHD313  INVALID VALUE
Explanation: The PRIORITY1 field must be specified as a number between 0 and 14.
System action: None.
User response: Specify a number between 0 and 14 for the PRIORITY1 field.
Severity: N/A

IOHD314  INVALID VALUE
Explanation: The PRIORITY2 field must be specified as a number between 0 and 14.
System action: None.
User response: Specify a number between 0 and 14 for the PRIORITY2 field.
Severity: N/A

IOHD315  INVALID VALUE
Explanation: The PRIORITY3 field must be specified as a number between 10 and 65535.
System action: None.
User response: Specify a number between 1 and 65535 for the PRIORITY3 field.
Severity: N/A
IOHD316 INVALID VALUE
Explanation: The ROUTING field must be specified as either YES or NO.
System action: None.
User response: Specify YES or NO for the ROUTING field.
Severity: N/A

IOHD317 INVALID VALUE
Explanation: The SCHD field must be specified as a number between 1 and 4.
System action: None.
User response: Specify a number between 1 and 4 for the SCHD field.
Severity: N/A

IOHD318 INVALID VALUE
Explanation: The SEGNO field must be specified as a number between 0 and 65535.
System action: None.
User response: Specify a number between 0 and 65535 for the SEGNO field.
Severity: N/A

IOHD319 INVALID VALUE
Explanation: The SEGSIZE field must be specified as a number between 0 and 65535.
System action: None.
User response: Specify a number between 0 and 65535 for the SEGSIZE field.
Severity: N/A

IOHD320 INVALID VALUE
Explanation: The SERIAL field must be specified as either YES or NO.
System action: None.
User response: Specify YES or NO for the SERIAL field.
Severity: N/A

IOHD321 INVALID VALUE
Explanation: The SPA SIZE field must be left blank (for nonconversational) or specified as a number between 16 and 32767.
System action: None.
User response: Specify a number between 16 and 32767 for the SPA SIZE field.
Severity: N/A

IOHD322 INVALID VALUE
Explanation: The SPA TYPE field must be specified as RTRUNC or STRUNC, or leave it blank.
System action: None.
User response: Specify RTRUNC or STRUNC for the SPA TYPE field, or leave it blank.
Severity: N/A

IOHD323 INVALID VALUE
Explanation: The RMT SYSID field must be left blank (for a non-MSC transaction), or be specified as a number between 1 and 2036.
System action: None.
User response: Specify a number between 1 and 2036 for the RMT SYSID field, or leave it blank.
Severity: N/A

IOHD324 INVALID VALUE
Explanation: The LCL SYSID field must be left blank (for a non-MSC transaction), or be specified as a number between 1 and 2036.
System action: None.
User response: Specify a number between 1 and 2036 for the LCL SYSID field, or leave it blank.
Severity: N/A

IOHD325 INVALID VALUE
Explanation: The WFI field must be specified as either YES or NO.
System action: None.
User response: Specify YES or NO for the WFI field.
Severity: N/A

IOHD326 INVALID VALUE
Explanation: The AOI field must be specified as either YES, NO, or TRAN.
System action: None.
User response: Specify YES, NO, or TRAN for the AOI field.
Severity: N/A
IOHD327 • IOHD339

IOHD327  INVALID VALUE
Explanation:  The TRANSTAT field must be YES or NO.
System action:  None.
User response:  Specify either YES or NO for the TRANSTAT field.
Severity:  N/A

IOHD328  INVALID VALUE
Explanation:  The EXPRTIME field must be a number between 0 and 65535.
System action:  None.
User response:  Specify a number between 0 and 65535 for the EXPRTIME field.
Severity:  N/A

IOHD331  INCOMPATIBLE OPTIONS
Explanation:  Conversational transactions (those with a SPA SIZE specified) must specify MODE=SNGL.
System action:  None.
User response:  Either change the SPA SIZE field to blank or change the MODE field to SNGL.
Severity:  N/A

IOHD332  INCOMPATIBLE OPTIONS
Explanation:  WIFI transactions must specify MODE=SNGL.
System action:  None.
User response:  Either change the WFI field to NO or change the MODE field to SNGL.
Severity:  N/A

IOHD333  INCOMPATIBLE OPTIONS
Explanation:  INQUIRY=NO AND RECOVERY=NORECOV are invalid.
System action:  None.
User response:  Either change the INQUIRY field to YES or change the RECOVERY field to RECOVER.
Severity:  N/A

IOHD334  INCOMPATIBLE OPTIONS
Explanation:  RECOVERY=NORECOV (nonrecoverable) cannot be specified for a conversational transaction (SPA SIZE non-blank).
System action:  None.
User response:  Either change the SPA SIZE field to blank or change the RECOVERY field to RECOVER.
Severity:  N/A

IOHD335  INCOMPATIBLE OPTIONS
Explanation:  RECOVERY=NORECOV (nonrecoverable) cannot be specified for a Fast Path transaction.
System action:  None.
User response:  Either change the FPATH field to NO or change the RECOVERY field to RECOVER.
Severity:  N/A

IOHD336  INCOMPATIBLE OPTIONS
Explanation:  MAXRGN cannot be greater than 0 for a transaction with SERIAL=YES.
System action:  None.
User response:  Either change the MAXRGN field to 0 or change the SERIAL field to NO.
Severity:  N/A

IOHD337  INCOMPATIBLE OPTIONS
Explanation:  When MAXRGN is specified as nonzero, a PARLIM value other than NONE is required.
System action:  None.
User response:  Either change the MAXRGN field to 0 or change the PARLIM field to NONE.
Severity:  N/A

IOHD338  INCOMPATIBLE OPTIONS
Explanation:  SERIAL=YES requires that MAXRGN be specified as 0.
System action:  None.
User response:  Either change the SERIAL field to NO or change the MAXRGN field to 0.
Severity:  N/A

IOHD339  INCOMPATIBLE OPTIONS
Explanation:  SERIAL=YES requires that PARLIM be specified as NONE.
System action:  None.
User response:  Either change the SERIAL field to NO or change the PARLIM field to NONE.
Severity:  N/A
IOHD340  INCOMPATIBLE OPTIONS
Explanation:  Fast Path transactions must specify RESPONSE mode YES.
System action:  None.
User response:  Either change the FPATH field to NO or change the RESPONSE field to YES.
Severity:  N/A

IOHD341  INCOMPATIBLE OPTIONS
Explanation:  Fast Path transactions must specify RESPONSE mode YES.
System action:  None.
User response:  Either change the FPATH field to NO or change the MSGTYPE field to SNGLSEG.
Severity:  N/A

IOHD342  INCOMPATIBLE OPTIONS
Explanation:  Batch oriented transactions (PRIORITY 0) cannot be parallel scheduled. PARLIM must be specified as NONE.
System action:  None.
User response:  Either change the PRIORITY1 and PRIORITY2 fields to nonzero or change the PARLIM field to NONE.
Severity:  N/A

IOHD343  INCOMPATIBLE OPTIONS
Explanation:  PRIORITY1 and PRIORITY2 must both be 0 for a batch oriented transaction; or they must be nonzero for an online transaction.
System action:  None.
User response:  Change both the PRIORITY1 and PRIORITY2 fields to nonzero, for an online transaction; or to 0 for a batch transaction.
Severity:  N/A

IOHE003  NOT AUTHORIZED
Explanation:  Authorization was denied.
System action:  The request is stopped.
User response:  Ensure that the appropriate users have access to the IMS HP Sysgen Tools security definitions. Check the MVS SYSLOG on the system where IMS is running for additional security messages related to this problem.
Severity:  N/A

IOHE004  LOAD FAILED
Explanation:  An MVS LOAD macro failed.
System action:  The request fails.
User response:  Obtain the module name, abend code, and return code from the long version of this message by pressing the Help key, (usually, PF1). Review the MVS SYSLOG on the system where IMS is running for any related messages. Contact IBM Software Support for assistance.
Severity:  N/A

IOHE005  APPC TRANS ERROR
Explanation:  A remote APPC process experienced an error but did not provide an error message ID.
System action:  The request fails.
User response:  Obtain the process name from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where IMS is running for any related messages. Contact IBM Software Support for assistance.
Severity:  N/A

IOHE006  APPC CALL ERROR
Explanation:  A call to an APPC service module failed.
System action:  The request fails.
User response:  Obtain the module name and return code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where IMS is running for any related messages. Contact IBM Software Support for assistance.
Severity:  N/A

IOHE007  UNKNOWN FUNCTION IN CALL
Explanation:  A call to IOHXAPPC contained an unknown function code.
System action:  The request fails.
User response:  Contact IBM Software Support for assistance.
IOHE009  SECURITY ERROR

Severity: N/A

Explanation: An attempt to issue an IMS command by means of APPC/IMS failed due to a security failure. This could be caused by authorization for the command being rejected by either RACF or IMS exit DFSCCMD0.

System action: The request fails.

User response: Review the MVS SYSLOG on the system where IMS is running and the IMS MTO log for any related messages. Contact IBM Software Support for assistance.

Severity: N/A

IOHE013  APPC ERROR

Explanation: APPC returned an unexpected value for the DATA_RECEIVED variable. The DATA_RECEIVED value returned and the call type ae shown in the long form of the message displayed by pressing the Help key (usually, PF1)

System action: The request fails.

User response: Ensure that the SYMDEST specified in the IMSID options is correct. If it is correct, contact IBM Software Support for additional assistance.

Severity: N/A

IOHE015  INVALID RECV LENGTH

Explanation: The APPC header contains a receive length of zero.

System action: The request fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOHE017  APPC MSG TOO LARGE

Explanation: The APPC message area was too small.

System action: The request fails.

User response: Contact IBM Software Support for assistance.

Severity: N/A

IOHE019  MISSING DEALLOC

Explanation: The APPC response received back from the APPC transaction did not include a deallocate for the conversation.

System action: The request fails.

User response: Review the MVS SYSLOG on the system where IMS is running for any related messages. Contact IBM Software Support for assistance.

Severity: N/A

IOHE020  INVALID MEMBER

Explanation: The member name specified in the select command was either missing or invalid.

System action: The request is ignored.

User response: Specify an existing member name on the SELECT command.

Severity: N/A

IOHE021  UPDATE LIST HAS 0 LINES

Explanation: The selected update list is empty and cannot be processed.

System action: The request is ignored.

User response: When selecting a Resource Update List to verify or install, select a list that has entries.

Severity: N/A

IOHE022  SECURITY ERROR

Explanation: Unable to validate your user ID on the MVS image where IMS runs. Password expired.

System action: The request fails.

User response: Change your password on the MVS system where IMS is running.

Severity: N/A

IOHE023  SECURITY ERROR

Explanation: Unable to validate your user ID on the MVS image where IMS runs. User ID is not defined.

System action: The request fails.

User response: The user ID that was used to logon to TSO must also be defined on the MVS system where IMS is running.

Severity: N/A

IOHE024  SECURITY ERROR

Explanation: Unable to validate the authorized user ID on the MVS system where IMS runs. Password expired.

System action: The request fails.

User response: Change your password on the MVS system where IMS is running.

Severity: N/A
IOHE025  SECURITY ERROR
Explanation: Unable to validate the authorized user ID on the MVS system where IMS runs. User ID not defined.
System action: The request fails.
User response: The user ID that was used to logon to TSO must also be defined on the MVS system where IMS runs.
Severity: N/A

IOHE030  ABEND abend-code
Explanation: Creation of the options module failed because of the stated abend code.
System action: The request fails.
User response: Review the abend code and check the MVS SYSLOG on the system where the TSO user is logged on for additional messages related to this error.
Severity: N/A

IOHE031  LOG RECORD ERROR
Explanation: Invalid field values were encountered while formatting the IOHLOG records.
System action: The request is stopped.
User response: Obtain the error code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity: N/A

IOHE032  COPY FAILED
Explanation: An error occurred while attempting to read the member to be copied, causing the copy operation to fail.
System action: The COPY request failed.
User response: Verify that the member that is being copied is a valid Resource Update List. Contact IBM Software Support for additional assistance.
Severity: N/A

IOHE033  COPY COMPLETE
Explanation: The request to copy the contents of another Resource Update List has completed successfully.
System action: The request has completed.
User response: None.
Severity: N/A

IOHE034  INVALID MEMBER
Explanation: The member name that was specified in the COPY command was not found in the IOHPDS data set.
System action: The COPY request fails.
User response: Verify that the name to be copied was specified correctly.
Severity: N/A

IOHE035  COPY ABORTED
Explanation: The COPY command was entered, but no member was selected.
System action: The request is rejected.
User response: Ensure that you select a member to copy.
Severity: N/A

IOHE036  NO ENTRIES SELECTED
Explanation: No Resource Update List was created because no entries were selected by using the U line command.
System action: The request is stopped.
User response: Ensure that you select one or more entries before pressing Enter to process the selected members.
Severity: N/A

IOHE037  FUNCTION ABORTED
Explanation: The request to create an Undo Resource Update List was stopped.
System action: The UNDO function is stopped.
User response: None. The request was stopped because End was pressed.
Severity: N/A

IOHE038  LOG RECORD ERROR
Explanation: Invalid field values were encountered while formatting the IOHLOG records.
System action: The request fails.
User response: Contact IBM Software Support for assistance with the identification of the invalid records in the IOHLOG data set.
Severity: N/A
IOHE039  INVALID MEMBER NAME
Explanation:  The member name that was specified is invalid or already exists. Specify a member name that does not already exist.
System action:  The member name is rejected.
User response:  Ensure that the member name that was specified is a valid member name and does not already exist.
Severity:  N/A

IOHF001  UNKNOWN REQUEST TYPE
Explanation:  The APPC transaction program received an APPC message with an unknown request type.
System action:  The request fails.
User response:  Obtain the request type from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity:  N/A

IOHF002  LOAD FAILED
Explanation:  An MVS LOAD macro failed.
System action:  The request fails.
User response:  Obtain the abend code and reason code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where IMS is running for other messages related to the LOAD failure. Contact IBM Software Support for assistance.
Severity:  N/A

IOHF003  IMS NOT AVAILABLE
Explanation:  The IMS control region was not found.
System action:  The request fails.
User response:  Check to see if IMS is running. Verify that the SYMDEST specified in the Setup options for this IMSID is correct for routing requests to the MVS system where IMS is running.
Severity:  N/A

IOHF005  GETMAIN FAILED
Explanation:  An MVS GETMAIN macro failed.
System action:  The request fails.
User response:  Obtain the storage type and return code from the long version of this message by pressing the Help key (usually, PF1). Contact IBM Software Support for assistance.
Severity:  N/A

IOHF006  DYNAMIC ALLOCATION ERROR
Explanation:  A dynamic allocation error occurred.
System action:  The request fails.
User response:  Obtain the data set type and return codes from the long version of this message by pressing the Help key (usually, PF1). Review ISPF Appendix A by pressing the Help key on the ISPF Primary Options menu to determine the reason for the error code reported in the long message. Contact IBM Software Support for assistance.
Severity:  N/A

IOHF007  OPEN FAILED
Explanation:  OPEN failed for the IMS RESLIB.
System action:  The request fails.
User response:  Review the MVS SYSLOG on the system where the IMS control region is running for other messages related to the OPEN failure. Contact IBM Software Support for assistance.
Severity:  N/A

IOHF008  SUBTASK FAILED
Explanation:  A subtask running the in APPC initiator failed.
System action:  The request fails.
User response:  Obtain the abend or return code from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the IMS control region is running for other messages related to the OPEN failure. Contact IBM Software Support for assistance.
Severity:  N/A

IOHF009  UNSUPPORTED IMS RELEASE
Explanation:  The release of IMS requested by the IMS subsystem is not supported.
System action:  The request is stopped.
User response:  Contact IBM Software Support for assistance.
Severity:  N/A

IOHF010  ATTACH FAILED
Explanation:  An MVS ATTACH failed.
System action:  The request fails.
User response:  Obtain the module name being attached and the return code, from the long version of this message by pressing the Help key (usually, PF1). Review the MVS SYSLOG on the system where the IMS
control region is running for other messages related to the failure. Contact IBM Software Support for assistance.

**Severity:** N/A

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**IOHF011**  VERIFY SUCCESSFUL

**Explanation:** The Verify request has completed without any errors or warnings.

**System action:** None.

**User response:** None.

**Severity:** N/A

---

**IOHF012**  UNKNOWN APPC STATUS

**Explanation:** IMS field LSCD_STAT has an unknown status.

**System action:** The request fails.

**User response:** Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHF013**  TRANSITORY APPC STATUS

**Explanation:** IMS field LSCD_STAT has a transitory status (starting or stopping).

**System action:** The request fails.

**User response:** Retry the request.

**Severity:** N/A

---

**IOHF014**  IMS SHUTDOWN

**Explanation:** The IMS control region was shut down while the update list was being implemented.

**System action:** The request fails.

**User response:** Retry the request when IMS is restarted.

**Severity:** N/A

---

**IOHF015**  VERIFY FAILED

**Explanation:** One or more errors occurred while verifying the compatibility of the Resource Update List entries with the named IMS subsystem.

**System action:** Processing continues.

**User response:** Review the messages that were displayed to determine the causes of the verification failure. Correct the problems and rerun the Verify request.

**Severity:** N/A

---

**IOHF016**  COMMAND NOT SUPPORTED

**Explanation:** The command entered is either invalid or not supported in the APPC/IMS environment.

**System action:** The request fails.

**User response:** Ensure that the command entered begins with a slash (/) and that the command was entered correctly.

**Severity:** N/A

---

**IOHF017**  INSTALL SUCCESSFUL

**Explanation:** The install request has completed successfully.

**System action:** None.

**User response:** None.

**Severity:** N/A

---

**IOHF018**  INSTALL FAILED

**Explanation:** An installation request was stopped because one or more error conditions prevented the successful installation of the Resource Update List.

**System action:** The installation is stopped.

**User response:** Review the messages that are shown to determine the causes of the installation failure, and correct the problems before trying again.

**Severity:** N/A

---

**IOHF027**  APPLICATION ERROR

**Explanation:** The response message for this request exceeded the maximum allowable size.

**System action:** The request fails.

**User response:** Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHF050**  OPEN FAILED

**Explanation:** OPEN failed for the IOHOPT data set.

**System action:** The request fails.

**User response:** Review the MVS SYSLOG on the system where the IMS control region is running for other messages related to the OPEN failure. Contact IBM Software Support for assistance.

**Severity:** N/A
**IOHF051 • IOHG002E**

**IOHF051  CLOSE FAILED**

**Explanation:** CLOSE failed for the IOHOPT data set.

**System action:** The request is stopped.

**User response:** Review the MVS SYSLOG on the system where the IMS control region is running for other messages related to the failure. Contact IBM Software Support for assistance.

**Severity:** N/A

---

**IOHG000E  IMS CTRL MUST BE FIRST STATEMENT**

**Explanation:** The IMS sysgen source did not include an IMSCTRL macro prior to any transact macros.

**System action:** The request fails. Syntax checking continues, although IMS HP Sysgen Tools is unable to verify that transaction classes do not exceed the maximum class as specified in the IMSCTRL macro.

**User response:** Ensure that the IMSCTRL macro is included in the IMS sysgen source.

**Severity:** N/A

---

**IOHG002E  FOLLOWING OPERAND(S) OMITTED OR INVALID: aaaaaaaaa**

**Explanation:** The list can include one or more of the following: DBRC, ETOFEAT, IRLMNM, IMSID, MAXCLAS, MAXIO, MAXREGN, MSVID, or SYSTEM.

By operand, one of the listed errors was detected.

- **DBRC**
  - More than one parameter was specified.
  - The parameter was not specified as YES or NO.
- **ETOFEAT**
  - More than two parameters were specified.
  - The first parameter was not YES, NO, or null.
  - The second parameter was not ALL or ONLY.
  - A second parameter was specified when the first parameter was NO.
- **IMSID**
  - More than one parameter was specified.
- **IRLMNM**
  - More than one parameter was specified.
  - The parameter was not 1 to 4 characters in length.
  - The parameter does not consist of alphanumerics.
- **MAXCLAS**
  - More than one parameter was specified.
  - The parameter was not specified as a decimal value from 1 through 255.
- **MAXIO**
  - More than two parameters were specified.
  - The first parameter is no longer used. It is kept only for compatibility purposes.
  - The second parameter was specified, but not as a decimal value from 7 through 255.
- **MAXREGN**
  - More than four parameters were specified.
  - The first parameter was specified, but not as a decimal value from 1 through 255.
  - The second value was specified, but not as a value from 1K through 99999K.
  - The third parameter was specified, but not as an alphanumerics character.
  - The fourth parameter was specified, but not as an alphanumerics character.
- **MSVID**
  - More than one parameter was specified.
  - The parameter was specified as a decimal number from 1 through 255 or a decimal number from 1 through 676 for IMS 6.1 and above.
  - The parameter was not specified for an MSVERIFY type of system definition.
- **SYSTEM**
  - More than four parameters were specified.
  - The first parameter was specified, but not as a decimal value from 1 to 31.
  - The first part of the second parameter was not specified as ALL, CTLBLKS, NUCLEUS, BATCH, ON-LINE, MSVERIFY or MODBLKS.
  - The second part of the second parameter was not specified as DB/DC, DBCTL, DCCTL, or null.
  - The fourth parameter can be specified only as LGEN or null.

**System action:** Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Correct the IMSCTRL macro’s specification of the indicated keyword.

---
Severity: 16

IOHG006W  DC1WA OPERAND IS INVALID; DEFAULT ASSUMED

Explanation: The value specified for the DC1WA= parameter of the IMSCTRL macro was neither YES nor NO.

System action: The value specified is ignored, and the default value of YES is used.

User response: Correct the IMSCTRL macro’s specification of keyword DC1WA.

Severity: 2

IOHG102E  DBD OPERAND IS OMITTED OR INVALID. SPECIFIED DBD NAME WAS mmmmm

Explanation: A DATABASE macro was encountered with either an invalid DBD= value, or the DBD= value was missing. Refer to the IMS Installation Guide Volume 2 for syntax restrictions on values of DBD=.

System action: The sysgen fails. In batch mode, the job ends with the specified condition code. In online mode, the /MODIFY request is canceled.

User response: Review the DATABASE macro that caused the problem. In an online request, it might be necessary to reproduce the error in batch mode to identify the macro in error.

Severity: 16

IOHG103E  THE FOLLOWING ARE DUPLICATE DBD NAMES: mmmmm

Explanation: The DBD name included in the message was specified more than once in the IMS sysgen input.

System action: The sysgen fails. In batch mode, the job ends with the specified condition code. In online mode, the /MODIFY request is canceled.

User response: Eliminate the duplicated database names from the IMS sysgen source.

Severity: 16

IOHG104E  ACCESS OPERAND IS OMITTED OR INVALID.

Explanation: The ACCESS= keyword of a DATABASE macro did not specify a valid value. Valid specifications are EX, UP, RD, or RO.

System action: The sysgen fails. In batch mode, the job ends with the specified condition code. In online mode, the /MODIFY request is canceled.

User response: Review the ACCESS= value specified on the DATABASE macro that caused the error.

Severity: 16

IOHG105E  DATABASE STATEMENT TOTAL SPECIFICATION EXCEEDED

Explanation: More than 32,700 database names were included in the IMS sysgen source.

System action: The sysgen fails. In batch mode, the job ends with the specified condition code. In online mode, the /MODIFY request is canceled.

User response: Reduce the number of DBD= values specified on DATABASE macros to less than 32,700.

Severity: 16

IOHG201E  POSITIONAL PARAMETER(S) INVALID.

Explanation: One of the following has occurred:
- More than one positional parameter was specified.
- A positional parameter other than DOPT or RESIDENT was specified.
- DOPT and SCHTYP=PARALLEL, which are mutually exclusive, were specified.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the statement in error. Also see message G201 in the IMS messages and codes manual.

Severity: 16

IOHG202E  PGMTYPE OPERAND IS INVALID.

Explanation: One of the following occurred:
- More than three parameters were specified.
- TP and BATCH were both specified.
- TP, BATCH, or OVLY was specified twice.
- A parameter was not specified as TP, BATCH, or OVLY.
- The class number was not specified as a value from 1 to 255 inclusive.
- The class number was greater than the specified or defaulted value of the MAXCLAS operand of the IMSCTRL statement.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the statement in error. Also see message G202 in the IMS messages and codes manual.

Severity: 16
IOHG203E  SCHDTYP OPERAND IS INVALID.

Explanation:  One of the following occurred:
- More than one parameter was specified.
- The parameter was not specified as SERIAL or PARALLEL.

System action:  Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response:  Review the statement in error. Also see message G203 in the IMS messages and codes manual.

Severity:  16

IOHG204E  IQF OPERAND IS INVALID.

Explanation:  The value specified for the IQF keyword was not NO.

System action:  Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response:  Review the statement in error. Also see message G204 in the IMS messages and codes manual.

Severity:  16

IOHG205E  PSB OPERAND IS OMITTED OR INVALID.

Explanation:  One of the following occurred:
- The PSB keyword operand was not specified.
- More than one parameter was specified.
- The parameter did not begin with an alphabetic character, or it contained more than 8 alphameric characters.
- The value began with the string ‘DFS’ or ‘DBCDEM’, or it contained a reserved word.

System action:  Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response:  Review the statement in error. Also see message G205 in the IMS messages and codes manual.

Severity:  16

IOHG206E  THE FOLLOWING ARE DUPLICATE PSB NAMES: xxxx

Explanation:  The specified PSB name was previously specified on an APPLCTN macro-instruction statement.

System action:  Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response:  Review the statement in error. Also see message G206 or G975 in the IMS messages and codes manual.

Severity:  16

IOHG207E  SYSID OPERAND IS INVALID.

Explanation:  One of the following occurred:
- The specified SYSID keyword operand did not contain two parameters.
- The specified parameter was not a decimal value from 1 through 255 (for IMS 5.1) or 1 through 2036 (for IMS 6.1 and above).
- The same value was specified for both SYSID parameters.

System action:  Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response:  Review the statement in error. Also see message G207 in the IMS messages and codes manual.

Severity:  16

IOHG208E  FPATH OPERAND IS INVALID.

Explanation:  The FPATH= keyword operand is not one of the following valid specifications: FPATH=YES, FPATH=NO, FPATH=, FPATH=0, or FPATH=size.

System action:  Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response:  Review the statement in error. Also see message G208 in the IMS messages and codes manual.

Severity:  16

IOHG209W  OVLY IS INVALID WHEN FPATH=YES. PGMTYPE OPERAND OVLY PARAMETER IS IGNORED.

Explanation:  This is a warning message. The OVLY parameter of the PGMTYPE= keyword operand is incompatible with FPATH=YES.

System action:  The OVLY specification is ignored.

User response:  Review the statement in error. Also see message G209 in the IMS messages and codes manual.

Severity:  16

IOHG210W  CLASS IS INVALID WHEN FPATH=YES. PGMTYPE OPERAND CLASS PARAMETER IS IGNORED.

Explanation:  This is a warning message. Fast Path does not use class specification for program scheduling.

System action:  The class specification is ignored.

User response:  Remove the class specification from the PGMTYPE keyword. Also see message G210 in the IMS messages and codes manual.

Severity:  16
Severity: 2

IOHG211E  IQF=YES IS INVALID WHEN FPATH=YES.
Explanation: An invalid value was specified for the IQF parameter.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.
User response: Review the statement in error. Also see message G211 in the IMS messages and codes manual.
Severity: 16

IOHG212E  SYSID IS INVALID WHEN FPATH=YES.
Explanation: The SYSID= operand is incompatible with the FPATH= operand.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.
User response: Review the statement in error. Also see message G212 in the IMS messages and codes manual.
Severity: 16

IOHG213E  FPATH=YES IS INVALID WITH PGMTYPE=BATCH
Explanation: Non-message-driven fast path regions are not supported.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.
User response: Review the statement in error. Also see message G213 in the IMS messages and codes manual.
Severity: 16

IOHG214E  GPSB IS INVALID
Explanation: The GPSB= parameter has been incorrectly specified.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.
User response: Review the statement in error. Also see message G214 in the IMS messages and codes manual.
Severity: 16

IOHG215E  RESIDENT AND DOPT ARE INVALID WITH GPSB
Explanation: The GPSB= parameter has been specified with either the RESIDENT parameter or the DOPT parameter. The RESIDENT and DOPT parameters are mutually exclusive with the GPSB= parameter. The RESIDENT or DOPT parameter is ignored.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.
User response: Review the statement in error. Also see message G215 in the IMS messages and codes manual.
Severity: 16

IOHG216E  LANG IS ONLY VALID WITH GPSB
Explanation: The LANG= parameter was specified, but the GPSB= parameter was not specified.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.
User response: Review the statement in error. Also see message G216 in the IMS messages and codes manual.
Severity: 16

IOHG217E  LANG IS INVALID
Explanation: The LANG= parameter has been incorrectly specified. The value specified must be ASSEM, COBOL, PL/I, or PASCAL.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.
User response: Review the statement in error. Also see message G217 in the IMS messages and codes manual.
Severity: 16

IOHG218E  GPSB OPERAND IS INVALID
Explanation: One of the following occurred:
• The GPSB= parameter does not begin with an alphabetic character, or it contains more than eight alphanumeric characters.
• The value begins with the string ‘DFS’ or ‘DBCDM’, or it contains a reserved word.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.
User response: Review the statement in error. Also see message G218 in the IMS messages and codes manual.
Severity: 16
IOHG219E PSB IS INVALID WITH GPSB

Explanation: Both the PSB= and GPSB= keywords were specified. These keywords are mutually exclusive.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the statement in error. Also see message G219 in the IMS messages and codes manual.

Severity: 16

IOHG220E LANG=JAVA INVALID WHEN FPATH=YES

Explanation: A Fast Path potential or Fast Path exclusive transaction cannot specify LANG=JAVA.

System action: None. The sysgen fails. In batch mode, the job ends with a specified condition code. In online mode, the /MODIFY request is canceled.

User response: Remove LANG=JAVA from any Fast Path transactions.

Severity: 2

IOHG221E TRANSTAT OPERAND IS INVALID

Explanation: Validation of the TRANSTAT keyword value failed.

System action: Syntax checking continues, but the fast SYSGEN process will not produce any updated control block modules.

User response: Correct the TRANSTAT value specified. Remove the TRANSTAT keyword if the IMS version being generated is below version 11.1.

Severity: 12

IOHG300E TRANSACT SPECIFICATION CANNOT PRECEDE APPLCTN

Explanation: The TRANSACT statement must be used in conjunction with a preceding APPLCTN statement.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the statement in error. Also see message G300 in the IMS messages and codes manual.

Severity: 16

IOHG301E LWA OPERAND IS INVALID; DEFAULT ASSUMED

Explanation: The LWA parameter was specified with an invalid value (not YES or NO). The default specified on the IMSGEN macro for DCLWA is assumed.

System action: The LWA value is set to the default.

User response: Review the statement in error. Also see message G301 in the IMS messages and codes manual.

Severity: 16

IOHG303E PRIORITY VALUES FOR TRANSACTION CODES USED BY BATCH PROGRAMS MUST BE NULL; SPECIFIED PRIORITY VALUES RESET TO ZERO.

Explanation: This is a warning message.

System action: The priority value for this transaction are reset to 0.

User response: Review the statement in error. Also see message G303 in the IMS messages and codes manual.

Severity: 16

IOHG304E INQUIRY AND INQ OPERANDS ARE MUTUALLY EXCLUSIVE; ONLY ONE MAY BE SPECIFIED

Explanation: The INQUIRY and INQ operands cannot both be specified on any one TRANSACT statement.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the statement in error. Also see message G300 in the IMS messages and codes manual.

Severity: 16

IOHG305E CONVERSATIONAL OR WFI TRANSACTION MUST BE MODE=SNGL; MODE RESET TO INDICATE SNGL

Explanation: This is a warning message.

System action: The MODE specification is changed to SNGL.

User response: Review the statement in error. Also see message G305 in the IMS messages and codes manual.

Severity: 16

IOHG306E THE FOLLOWING OPERANDS ARE INVALID: aaaaaaaaa

Explanation: One of the following occurred:

- The value begins with the string 'DFS' or 'DBCMD', or it contains a reserved word.
- The list can include one or more of the following: EDIT, INQ/INQUIRY, MODE, MSGTYPE, PARLIM, PROCLIM, PRTY, SCHD, SEGNO, SEGSIZE, SPA, or SYSID.

By operand, one of the listed errors was detected.
• EDIT
  – More than two parameters were specified.
  – The first parameter was specified, but was not
    specified as UC or ULC.
  – The second parameter was specified, but was not
    specified as a 1- to 8-character alphameric name
    that begins with an alphabetic character.
• INQ/INQUIRY
  – More than two parameters were specified.
  – A parameter specified was not specified YES, NO,
    RECOVER or NORECOV.
  – NORECOV and SPA were both specified.
  – Incompatible parameters were specified. For
    example, INQ=(YES,NO) or INQ=(NO,NORECOV).
• MODE
  – More than one parameter was specified.
  – A parameter other than SNGL or MULT was
    specified.
• MSGTYPE
  – More than three parameters were specified.
  – A parameter specified was not specified as
    MULTSEG, SNGLSEG, NONRESPONSE, RESPONSE, or
    not specified as a decimal number from 1 to 255, and
    less than the specified or default value of the
    IMSCTRL statement MAXCLAS keyword operand.
  – An invalid combination of parameters was
    specified.
• PARLIM
  – SCHDTYP=PARALLEL was not specified for the
    preceding APPLCTN macro instruction statement.
  – The parameter was specified, but was not
    specified as a decimal number from 1 to 32767.
• PROCLIM
  – More than two parameters were specified.
  – One of the parameters was specified, but was not
    specified as a decimal number from 1 to 65535.
• PRTY
  – More than three parameters were specified.
  – The first and/or second parameter was specified,
    but was not specified as a decimal number from 1
    to 14.
  – The third parameter was specified, but was not
    specified as a decimal number from 1 to 65535.
• SCHD
  – More than one parameter was specified.
  – The specified parameter was not a decimal
    number from 1 to 4.
• SEGNO and/or SEGSIZE
  – More than one parameter was specified.
  – The specified parameter was not a decimal
    number from 1 to 65535.

• SPA
  – More than two subparameters for IMS 6.1 or 3
    parameters for IMS 5.1 were specified.
  – For IMS 6.1, the first subparameter was not a
    decimal number from 16 to 32767.
  – For IMS 6.1, the second subparameter was not the
    characters STRUNC or RTRUNC.
  – For IMS 5.1, one parameter must be a numeric
    value between 16 and 32767, and another
    parameter might be CORE or DISK, and another
    parameter might be FIXED.
• SYSID
  – The operand did not contain two parameters.
  – The specified parameters were not a decimal
    value from 1 to 255 (for IMS 5.1) or 1 to 2036 for
    IMS 6.1 and above).
  – The same value was specified for both SYSID
    parameters.
  – The parameter cannot be specified for a Fast Path
    exclusive transaction.

System action: Syntax checking continues, but the Fast
Sysgen process will not produce any updated control
block modules.

User response: Review the statement in error. Also see
message G306 in the IMS messages and codes manual.

Severity: 16

---

IOHG307E  THE FOLLOWING ARE DUPLICATE
TRANSACTION CODES:  aaaaaaaaa

Explanation: A specified transaction code name was
previously specified as a transaction code name.

System action: Syntax checking continues, but the Fast
Sysgen process will not produce any updated control
block modules.

User response: Review the statement in error. Also see
message G307 or G976 in the IMS messages and codes
manual.

Severity: 16

---

IOHG309E  CODE OPERAND IS OMITTED OR
INVALID. SPECIFIED TRANSACTION
CODE -  aaaaaaaaa

Explanation: One of the following occurred:
• The CODE operand was not specified.
• The parameter contained a null subparameter.
• The parameter was not specified as a 1- to
  8-character alphameric name.

System action: Syntax checking continues, but the Fast
Sysgen process will not produce any updated control
block modules.

User response: Review the statement in error. Also see
message G309 in the IMS messages and codes manual.

**Severity:** 16

---

**IOHG310E**  
**Explanation:** Fast Path non-message-driven application programs are not allowed to issue file calls to retrieve or insert terminal messages. TRANSACT macros following a Fast Path non-message-driven APPLCTN macro are therefore invalid.

**User response:** Remove all TRANSACT macros following the APPLCTN macros with FPATH=YES and PGMTYPE=BATCH specified.

**Severity:** 16

---

**IOHG311E**  
**Explanation:** Fast Path does not support conversational transactions.

**User response:** Remove the SPA= keyword operand specification on all Fast Path transactions.

**Severity:** 16

---

**IOHG313E**  
**Explanation:** Fast Path does not support Fast Path potential transactions on BMP application programs.

**User response:** Remove the FPATH= keyword operand from the TRANSACT macro or convert the BMP application to an MPP.

**Severity:** 16

---

**IOHG313W**  
**Explanation:** More than 255 transaction edit routine names were specified.

**User response:** Review the edit routine names specified and reduce the number of routine names to less than 255.

**Severity:** 2

---

**IOHG314W**  
**Explanation:** This is a warning message. Fast Path only supports transactions that are specified as MODE=SNGL.

**User response:** Specify MODE=SNGL or remove the MODE keyword operand.

**Severity:** 2

---

**IOHG315W**  
**Explanation:** Fast Path only supports transactions that are specified as MSGTYPE=(SNGLSEG,RESPONSE). This is a warning message only.

**User response:** Change the MSGTYPE= keyword operand to specify MSGTYPE=(SNGLSEG,RESPONSE) or eliminate the specification.

**Severity:** 2

---

**IOHG317W**  
**Explanation:** One of the following occurred:

- More than one value was specified for the MAXRGN= keyword on the TRANSACT macro.
- If the value is not zero, then PARLIM= is not specified.
- The MAXRGN= keyword is not a value from 0 through 255.

**User response:** Review the statement in error. Also see message G317 in the IMS messages and codes manual.

**Severity:** 2

---

**IOHG318W**  
**Explanation:** One of the following occurred:

- More than one value was specified for the SERIAL= keyword on the TRANSACT macro.
- The PARLIM= keyword has a value specified.

**User response:** Review the statement in error. Also see message G317 in the IMS messages and codes manual.

**Severity:** 2
The SERIAL= keyword is not set to YES, NO, or null.

**System action:** The default value of NO is used.

**User response:** Review the statement in error. Also see message G318 in the IMS messages and codes manual.

**Severity:** 2

---

**IOHG582**

**SYSID SPECIFICATION OMITTED OR INVALID**

**Explanation:** The SYSID= specification on an MSNAME macro was in error. One of the following occurred:
- The required operand was not specified.
- The operand was not specified as two numeric parameters, both being between the range of 1 and 255 (for IMS 5.1) or the range of 1 and 2036 (for IMS 6.1 and higher).
- The value of the first parameter is identical to the second.

**System action:** Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the SYSID specification on the statement in error. Also see message G582 in the IMS messages and codes manual.

**Severity:** 8

---

**IOHG906W**

**NO TRANSACTIONS SPECIFIED FOR PRIOR APPLCTN MACRO**

**Explanation:** This message indicates the presence of an APPLCTN macro with PGNTYPE=TP with no associated TRANSACT macros. This is a warning message. The APPLCTN is still defined, but since there are no associated transactions, the program will never be scheduled.

**System action:** None. Processing continues.

**User response:** Review the APPLCTN definition to determine if it should be defined with no associated transactions. Note that this message applies not to the statement immediately preceding the message, but to the APPLCTN statement before the preceding statement.

**Severity:** 16

---

**IOHG582**

**IOHG964E**

---

**IOHG922W**

**SUFFIX OPERAND IS INVALID; DEFAULT ASSUMED**

**Explanation:** The value specified for the SUFFIX keyword of the IMSGEN macro was invalid.

**System action:** The sysgen fails. In batch mode, the job ends with the specified condition code. In online mode, the /MODIFY request is canceled.

**User response:** Correct the value specified for the SUFFIX keyword of the IMSGEN macro.

**Severity:** 16

---

**IOHG951E**

**REMOTE SYSID sssss SPECIFIED FOR TRAN ttttttttt IS NOT A VALID REMOTE SYSID**

**Explanation:** A remote system ID, specified in the SYSID= keyword operand of a TRANSACT or APPLCTN statement, was not specified as a remote system ID in any MSNAME statement in the input to this IMS system definition.

**System action:** Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

**User response:** Review the SYSID specified and correct the SYSID specification on either the TRANSACT/APPLCTN statement or the MSNAME statement.

**Severity:** 8

---

**IOHG962E**

**FPCTRL MACRO MUST BE CODED WHEN FP RESOURCES ARE DEFINED**

**Explanation:** The FPCTRL macro was not coded and Fast Path resources were defined.

**System action:** The sysgen fails. In batch mode, the job ends with the specified condition code. In online mode, the /MODIFY request is canceled.

**User response:** Code an FPCTRL macro.

**Severity:** 16

---

**IOHG964E**

**LOCAL SYSID sssss SPECIFIED FOR TRAN ttttttttt WAS DEFINED AS A REMOTE SYSID**

**Explanation:** A local system ID, specified in the SYSID= keyword operand of a TRANSACT or APPLCTN statement, was specified as a remote system ID in an MSNAME statement.
System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the SYSID specified and correct the SYSID specification on either the TRANSACT/APPLCTN statement or the MSNAME statement.

Severity: 8

IOHG965W NO FAST PATH APPLCTN SPECIFICATIONS

Explanation: This is a warning message. The FPCTRL macro was coded, but no Fast Path application programs were specified.

System action: The FPCTRL macro statement is ignored. Processing continues.

User response: Remove the FPCTRL macro specification, or define at least one Fast Path application program.

Severity: 2

IOHG1000E RTCODE SPECIFICATION CANNOT PRECEDE APPLCTN.

Explanation: The RTCODE statement must be used in conjunction with a preceding APPLCTN statement.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the statement in error. Also see message G1000 in the IMS messages and codes manual.

Severity: 16

IOHG1004E CODE OPERAND IS OMITTED OR INVALID.

Explanation: One of the following occurred:
- The CODE operand was not specified.
- The parameter contained a null subparameter.
- The parameter or subparameter was not specified as a 1-8 character alphameric name.
- The value begins with the string ‘DFS’ or ‘DBCDM’, or it contains a reserved word.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the statement in error. Also see message G1004 in the IMS messages and codes manual.

Severity: 16

IOHG1005E INQ/INQUIRY OPERAND IS INVALID.

Explanation: One of the following occurred:
- More than one parameter was specified.
- The parameter specified was not YES or NO.
- Both INQ and INQUIRY parameters were specified.

System action: Syntax checking continues, but the Fast Sysgen process will not produce any updated control block modules.

User response: Review the statement in error. Also see message G1005 in the IMS messages and codes manual.

Severity: 16

How to look up message explanations

You can use several methods to search for messages and codes.
Searching an information center

In the search box that is located in the top left toolbar of any Eclipse help system, such as the IBM Information Management Software for z/OS Solutions Information Center, enter the number of the message that you want to locate. For example, you can enter DFS1065A in the search field.

Use the following tips to help you improve your message searches:

- You can search for information on codes by entering the code; for example, enter -327.
- Enter the complete or partial message number. You can use the asterisk wildcard character (*) to represent multiple characters, and you can use the question mark wildcard character (?) to represent a single character.

The information center contains the latest message information for all of the information management products that are included in the information center.

Searching for messages on the Web

You can use any of the popular search engines that are available on the Web to search for message explanations. When you type the specific message number or code into the search engine, you will be presented with links to the message information in IBM information centers.

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