



**Program Directory for  
IBM IMS High Performance System Generation  
Tools for z/OS**

V02.04.00

Program Number 5655-P43

FMID H24Q240

for Use with  
z/OS

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**Note**

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 23.

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## 1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM IMS High Performance System Generation Tools for z/OS. This publication refers to IBM IMS High Performance System Generation Tools for z/OS as IMS HP Sysgen Tools.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 4 identifies the basic program materials and documentation for IMS HP Sysgen Tools.
- 3.0, “Program Support” on page 6 describes the IBM support available for IMS HP Sysgen Tools.
- 4.0, “Program and Service Level Information” on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into IMS HP Sysgen Tools.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using IMS HP Sysgen Tools.
- 6.0, “Installation Instructions” on page 16 provides detailed installation instructions for IMS HP Sysgen Tools. It also describes the procedures for activating the functions of IMS HP Sysgen Tools, or refers to appropriate publications.

Before installing IMS HP Sysgen Tools, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this program directory; after which, keep the documents for your reference. Section 3.2, “Preventive Service Planning” on page 6 tells you how to find any updates to the information and procedures in this program directory.

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

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

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### 1.1 IMS HP Sysgen Tools Description

IBM IMS High Performance System Generation Tools for z/OS, (5655-P43) is a transaction management tool that offers an integrated solution that can help eliminate the requirement for IMS sysgens and provides the capability to dynamically alter IMS sysgen application resources.

IMS High Performance System Generation Tools provides the following features:

- Helps reduce or avoid emergency IMS sysgens caused by databases or transactions that were not included in the most recent IMS sysgen
- Helps avoid IMS system outages when backing out application definition changes
- Provides an easy to use interface that allows one person to define a list of changes to be implemented, and have that list verified and be implemented by another person (or a scheduled batch job)
- Offers an ISPF IMS command interface that allows the user to issue any authorized IMS command
- Allows control in a shared IMS environment over who has the authority to perform each function
- Provides an audit log for reviewing all changes made to an IMS system, along with the capability to easily back out individual resource updates
- Provides compatibility with IMS Tools Generic Exits

IMS High Performance System Generation Tools can perform the following 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)
- Reload a specific ACBLIB member, without using ACBLIB online change
- Reload DEDB randomizer routines
- Support reload of a DEDB database DBDS
- Support reload of an IMS ACBLIB member that includes a DBD for a DEDB, and automatically reload any PSB that is affected by a change to a DBD

Once a list of resource updates is created, the list can be verified to determine that there are no resource conflicts and that the updates should 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, helping confirm that updates should install successfully in all IMS systems at the same time, and that resource definitions are kept in synchronization with other members of the IMSplex.

IMS High Performance System Generation Tools includes the following capabilities:

- Displays 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
- Validates IMS sysgen source without the overhead of running an IMS sysgen
- Recreates IMS sysgen source or security gen source from the MODBLKS/MATRIX data sets
- Issues IMS commands from the IMS High Performance System Generation Tools ISPF interface
- Views IMS control region storage and control blocks, and zap storage in the IMS control region
- Uses the IMS High Performance System Generation Tools History Log to review which resources were updated by which userid, and when the update was installed
- Converts IMS High Performance System Generation Tools History Log entries to IMS sysgen macros, which can be used to update IMS sysgen source to help keep source in synchronization with the running IMS system

- Backs out one or more resource updates, restoring the definitions to the state they were in before an update was installed
- Creates SMP/E JCLIN source statements from a MODBLKS data set
- Creates an installable list of resource updates to synchronize the running IMS system with the updated IMS sysgen source
- Compares different MODBLKS data sets to identify any differences in the IMS resource definitions
- Performs an IMS MODBLKS type sysgen without the overhead of the IMS sysgen process

The IMS High Performance System Generation Tools Fastgen process duplicates the MODBLKS sysgen process using 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.

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

IMS High Performance System Generation Tools for z/OS, contains all of the features and functions of the previous release and provides the following enhancements:

- Support of IMS V15

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## 1.2 IMS HP Sysgen Tools FMID

IMS HP Sysgen Tools consists of the following FMID:

H24Q240

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## 2.0 Program Materials

An IBM program is identified by a program number. The program number for IMS HP Sysgen Tools is 5655-P43.

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

The program announcement material describes the features supported by IMS HP Sysgen Tools. Ask your IBM representative for this information if you have not already received a copy.

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### 2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 16 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for IMS HP Sysgen Tools in the *CBPDO Memo To Users Extension*.

Figure 1. Program File Content IMS HP Sysgen Tools

Name	ORG	REC	LEN	BLK SIZE
SMPMCS	SEQ	FB	80	8800
IBM.H24Q240.F1	PDS	FB	80	8800
IBM.H24Q240.F2	PDS	FB	80	8800
IBM.H24Q240.F3	PDS	FB	80	8800
IBM.H24Q240.F4	PDS	U	0	6144
IBM.H24Q240.F5	PDS	FB	80	8800
IBM.H24Q240.F6	PDS	FB	80	8800
IBM.H24Q240.F7	PDS	FB	80	8800
IBM.H24Q240.F8	PDS	FB	80	8800
IBM.H24Q240.F9	PDS	FB	80	8800
IBM.H24Q240.F10	PDS	FB	80	8800



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## 2.2 Program Publications

The following sections identify the basic publications for IMS HP Sysgen Tools.

Figure 2 on page 5 identifies the basic unlicensed publications for IMS HP Sysgen Tools.

The unlicensed documentation for IMS HP Sysgen Tools can be found on the IBM Knowledge Center at: <https://www.ibm.com/support/knowledgecenter>

<i>Figure 2. Basic Material: Unlicensed</i>		
<b>Publication Title</b>	<b>Form Number</b>	<b>Media Format</b>
IBM IMS High Performance System Generation Tools for z/OS License Information	GC18-9473	<a href="http://www.ibm.com/software/sla/sladb.nsf">http://www.ibm.com/software/sla/sladb.nsf</a>
IBM IMS High Performance System Generation Tools for z/OS User's Guide	SC19-3983	<a href="http://www.ibm.com/support/docview.wss?uid=swg27020942">http://www.ibm.com/support/docview.wss?uid=swg27020942</a>

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## 2.3 Program Source Materials

No program source materials or viewable program listings are provided for IMS HP Sysgen Tools.

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## 2.4 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of IMS HP Sysgen Tools. To order copies, contact your IBM representative or visit the IBM Publications Center at: <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>

<i>Figure 3. Publications Useful During Installation</i>	
<b>Publication Title</b>	<b>Form Number</b>
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883

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

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## 3.0 Program Support

This section describes the IBM support available for IMS HP Sysgen Tools.

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### 3.1 Program Services

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

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### 3.2 Preventive Service Planning

Before you install IMS HP Sysgen Tools, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.PRODUCTINSTALL-REQUIRESERVICE fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.PRODUCTINSTALL-REQUIRESERVICE)** operand on the **APPLY CHECK** command. See 6.1.11, "Perform SMP/E APPLY" on page 19 for a sample APPLY command.

If you obtained IMS HP Sysgen Tools as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IMS HP Sysgen Tools is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

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

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

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

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for IMS HP Sysgen Tools are included in Figure 4.

UPGRADE	SUBSET	Description
5655P43	H24Q240	IMS HP Sysgen Tools

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### 3.3 Statement of Support Procedures

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

Figure 5 on page 7 identifies the component IDs (COMPID) for IMS HP Sysgen Tools.

<i>Figure 5. Component IDs</i>			
<b>FMID</b>	<b>COMPID</b>	<b>Component Name</b>	<b>RETAIN Release</b>
H24Q240	5655F4300	IMS HP Sysgen Tools	240

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## 4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IMS HP Sysgen Tools. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

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### 4.1 Program Level Information

The following APAR fixes against previous releases of IMS HP Sysgen Tools have been incorporated into this release. They are listed by FMID.

- FMID H24Q240

PM96832 PI06380 PI09691 PI10414 PI20459 PI12288 PI18097 PI27455  
PI23189 PI38434 PI40688 PI41969 PI44598 PI48545 PI73749 PI88299  
PI89073

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### 4.2 Service Level Information

No PTFs against this release of IMS HP Sysgen Tools have been incorporated into the product package.

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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating IMS HP Sysgen Tools. The following terminology is used:

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

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

Use separate driving and target systems in the following situations:

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

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### 5.1 Driving System Requirements

This section describes the environment of the driving system required to install IMS HP Sysgen Tools.

#### 5.1.1 Machine Requirements

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

#### 5.1.2 Programming Requirements

*Figure 6. Driving System Software Requirements*

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	V02.02.00 or higher	N/A	No

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

**Note:** Installation might require migration to new z/OS releases to be service supported. See [https://www-01.ibm.com/software/support/lifecycle/index\\_z.html](https://www-01.ibm.com/software/support/lifecycle/index_z.html).

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## 5.2 Target System Requirements

This section describes the environment of the target system required to install and use IMS HP Sysgen Tools.

IMS HP Sysgen Tools installs in the DBS (P115) SREL.

### 5.2.1 Machine Requirements

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

### 5.2.2 Programming Requirements

#### 5.2.2.1 Installation Requisites

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

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

Figure 7. Target System Mandatory Installation Requisites

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	V02.02.00 or higher	N/A	No

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

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

IMS HP Sysgen Tools has no conditional installation requisites.

### 5.2.2.2 Operational Requisites

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

Mandatory operational requisites identify products that are required for this product to operate its basic functions.

<i>Figure 8. Target System Mandatory Operational Requisites</i>	
<b>Program Number</b>	<b>Product Name and Minimum VRM/Service Level</b>
Any <b>one</b> of the following:	
5635-A05	IBM IMS V14.01.00
5635-A06	IBM IMS V15.01.00
5655-DSE	IBM IMS Database Value Unit Edition V14.01.00
5655-DS5	IBM IMS Database Value Unit Edition V15.01.00

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

IMS HP Sysgen Tools has no conditional operational requisites.

### 5.2.2.3 Toleration/Coexistence Requisites

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

IMS HP Sysgen Tools has no toleration/coexistence requisites.

### 5.2.2.4 Incompatibility (Negative) Requisites

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

IMS HP Sysgen Tools has no negative requisites.

## 5.2.3 DASD Storage Requirements

IMS HP Sysgen Tools libraries can reside on all supported DASD types.

Figure 9 lists the total space that is required for each type of library.

Figure 9. Total DASD Space Required by IMS HP Sysgen Tools

Library Type	Total Space Required in 3390 Trks
Target	715
Distribution	715

**Notes:**

1. If you are installing into an existing environment that has the data sets in Figure 12 on page 14 and Figure 13 on page 14 already allocated, ensure sufficient disk space and directory blocks are available to support the requirement listed. This might require you to reallocate some data sets to avoid x37 abends.
2. Use system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, a block size of 32760 is recommended, which is the most efficient from a performance and DASD utilization perspective.
3. Abbreviations used for data set types are shown as follows.

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

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

For more information about the names and sizes of the required data sets, see 6.1.8, "Allocate SMP/E Target and Distribution Libraries" on page 19.

4. All target and distribution libraries listed have the following attributes:
  - The default name of the data set can be changed.
  - The default block size of the data set can be changed.
  - The data set can be merged with another data set that has equivalent characteristics.



- The data set can be either a PDS or a PDSE, with some exceptions. If the value in the "ORG" column specifies "PDS", the data set must be a PDS. If the value in "DIR Blks" column specifies "N/A", the data set must be a PDSE.

5. All target libraries listed have the following attributes:

- These data sets can be SMS-managed, but they are not required to be SMS-managed.
- These data sets are not required to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

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

- These data sets can be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLIST.
- It is required that the data set SIOHLINK be APF authorized

If you are installing into an existing environment, ensure the values used for the SMP/E work datasets reflect the minimum values shown in Figure 10. Check the corresponding DDDEF entries in all zones because use of values lower than these can result in failures in the installation process. Refer to the SMP/E manuals for instructions on updating DDDEF entries.

Figure 10. Storage Requirements for SMP/E Work Data Sets

<b>Library DDNAME</b>	<b>T Y P E</b>	<b>O R G</b>	<b>R E C F M</b>	<b>L R E C L</b>	<b>Prim No. of 3390 Trks</b>	<b>Sec No. of 3390 Trks</b>	<b>No. of DIR Blks</b>
SMPWRK1	S	PDS	FB	80	150	150	220
SMPWRK2	S	PDS	FB	80	150	150	220
SMPWRK3	S	PDS	FB	80	300	600	1320
SMPWRK4	S	PDS	FB	80	150	150	220
SMPWRK6	S	PDS	FB	80	300	1500	660
SYSUT1	S	SEQ	--	--	75	75	0
SYSUT2	S	SEQ	--	--	75	75	0
SYSUT3	S	SEQ	--	--	75	75	0
SYSUT4	S	SEQ	--	--	75	75	0

If you are installing into an existing environment, ensure the current SMP/E support dataset allocations reflect the minimum values shown in Figure 11. Check the space and directory block allocation and reallocate the data sets, if necessary.

Figure 11. Storage Requirements for SMP/E Data Sets

Library DDNAME	T Y P E	O R G A N I Z A T I O N	R E C O R D S	L E N G T H	Prim No. of 3390 Trks	Sec No. of 3390 Trks	No. of DIR Blks
SMPLTS	S	PDSE	U	0	15	150	N/A
SMPMTS	S	PDS	FB	80	15	150	220
SMPPTS	S	PDSE	FB	80	300	1500	N/A
SMPSCDS	S	PDS	FB	80	15	150	220
SMPSTS	S	PDS	FB	80	15	150	220

The following figures describe the target and distribution libraries required to install IMS HP Sysgen Tools. The storage requirements of IMS HP Sysgen Tools must be added to the storage required by other programs that have data in the same library.

Figure 12. Storage Requirements for IMS HP Sysgen Tools Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G A N I Z A T I O N	R E C O R D S	L E N G T H	No. of 3390 Trks	No. of DIR Blks
SIOHBASE	SAMP	Any	U	PDS	FB	80	12	6
SIOHEXEC	EXEC	Any	U	PDS	FB	80	6	6
SIOHLINK	LOAD	Any	U	PDS	U	0	352	26
SIOHMACS	MACRO	Any	U	PDS	FB	80	40	6
SIOHMENU	MESSAGE	Any	U	PDS	FB	80	30	8
SIOHPENU	PANEL	Any	U	PDS	FB	80	230	35
SIOHSAMP	SAMP	Any	U	PDS	FB	80	25	25
SIOHSENU	SKELETON	Any	U	PDS	FB	80	6	6
SIOHTENU	TABLE	Any	U	PDS	FB	80	6	2

Figure 13 (Page 1 of 2). Storage Requirements for IMS HP Sysgen Tools Distribution Libraries

Library DDNAME	T Y P E	O R G A N I Z A T I O N	R E C O R D S	L E N G T H	No. of 3390 Trks	No. of DIR Blks
AIOHBASE	U	PDS	FB	80	12	6

Figure 13 (Page 2 of 2). Storage Requirements for IMS HP Sysgen Tools Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AIOHEXEC	U	PDS	FB	80	6	6
AIOHLINK	U	PDS	U	0	352	26
AIOHMACS	U	PDS	FB	80	40	6
AIOHMENU	U	PDS	FB	80	30	8
AIOHPENU	U	PDS	FB	80	230	25
AIOHSAMP	U	PDS	FB	80	25	25
AIOHSENU	U	PDS	FB	80	6	6
AIOHTENU	U	PDS	FB	80	2	2

### 5.3 FMIDs Deleted

Installing IMS HP Sysgen Tools might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install IMS HP Sysgen Tools into separate SMP/E target and distribution zones.

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

### 5.4 Special Considerations

IMS HP Sysgen Tools has no special considerations for the target system.

---

## 6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of IMS HP Sysgen Tools.

Please note the following points:

- If you want to install IMS HP Sysgen Tools into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets. Additionally, to assist you in doing this, IBM has provided samples to help you create an SMP/E environment at the following URL:  
**<http://www.ibm.com/support/docview.wss?rs=660&context=SSZJDU&uid=swg21066230>**
- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.

---

### 6.1 Installing IMS HP Sysgen Tools

#### 6.1.1 SMP/E Considerations for Installing IMS HP Sysgen Tools

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of IMS HP Sysgen Tools.

#### 6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 14. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

Subentry	Value	Comment
DSSPACE	(200,200,500)	
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

#### 6.1.3 SMP/E CALLLIBS Processing

IMS HP Sysgen Tools does not use the CALLLIBS function.

## 6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install IMS HP Sysgen Tools:

*Figure 15. Sample Installation Jobs*

Job Name	Job Type	Description	RELFILE
IOHALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set <b>(Optional)</b>	IBM.H24Q240.F2
IOHALB	SMP/E	Sample job to allocate SMP/E data sets <b>(Optional)</b>	IBM.H24Q240.F2
IOHRECEV	RECEIVE	Sample RECEIVE job	IBM.H24Q240.F2
IOHALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.H24Q240.F2
IOHDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.H24Q240.F2
IOHAPPLY	APPLY	Sample APPLY job	IBM.H24Q240.F2
IOHACCEP	ACCEPT	Sample ACCEPT job	IBM.H24Q240.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.10, “Perform SMP/E RECEIVE” on page 19) then copy the jobs from the relfiles to a work data set for editing and submission. See Figure 15 to find the appropriate relfile data set.

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

```
//STEP1 EXEC PGM=IEBCOPY,REGION=4M
//SYSPRINT DD SYSOUT=*
//*TAPEIN DD DSN=IBM.H24Q240.F2,UNIT=tunit,
// VOL=SER=volser,LABEL=(x,SL),
// DISP=(OLD,KEEP)
//*FILEIN DD DSN=IBM.H24Q240.F2,UNIT=SYSALLDA,DISP=SHR,
//* VOL=SER=filevol
//OUT DD DSNAME=jc1-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(30,15,15))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
/*
```

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

TAPEIN:

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

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

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

See the documentation that is provided by CBPDO for the location IBM.H24Q240.F2 on the tape.

FILEIN:

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

OUT:

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

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

SYSIN:

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

### 6.1.5 Create New SMP/E Support Files - Optional

If you do not want to install into an existing environment, you can create a new environment. To allocate new SMP/E support data sets for IMS HP Sysgen Tools installation, edit and submit sample job CUZJ1SMA. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages: 0**

### 6.1.6 Create New SMP/E CSI - Optional

If you are using an existing CSI, do not execute this job.

If you are allocating a new SMP/E data set for this install, edit and submit sample job IOHALA to allocate the SMP/E data set for IMS HP Sysgen Tools. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

### 6.1.7 Initialize CSI zones (Optional)

If you are using an existing CSI, do not execute this job.

Edit and submit sample job IOHALB to initialize SMP/E zones for IMS HP Sysgen Tools. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

## 6.1.8 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job IOHALLOC to allocate the SMP/E target and distribution libraries for IMS HP Sysgen Tools. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages: 0**

## 6.1.9 Create DDDEF Entries

Edit and submit sample job IOHDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IMS HP Sysgen Tools. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages: 0**

## 6.1.10 Perform SMP/E RECEIVE

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

You can also choose to edit and submit sample job IOHRECEV to perform the SMP/E RECEIVE for IMS HP Sysgen Tools. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages: 0** You will receive a return code of 0 if this job runs correctly.

## 6.1.11 Perform SMP/E APPLY

Ensure that you have the latest HOLDDATA; then edit and submit sample job IOHAPPLY to perform an SMP/E APPLY CHECK for IMS HP Sysgen Tools. Consult the instructions in the sample job for more information.

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

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

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

Here are sample APPLY commands:

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

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

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

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

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

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
..any other parameters documented in the program directory
```

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

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

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



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

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

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

After installing new function, you should perform two operations:

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

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

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

## **6.1.12 Perform SMP/E ACCEPT**

Edit and submit sample job IOHACCEP to perform an SMP/E ACCEPT CHECK for IMS HP Sysgen Tools. Consult the instructions in the sample job for more information.

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

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

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

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

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

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

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## 6.2 Activating IMS HP Sysgen Tools

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## 6.3 Product Customization

The publication *IBM IMS High Performance System Generation Tools for z/OS User's Guide* (SC19-3983) contain the necessary information to customize and use IMS HP Sysgen Tools.

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