Program Directory for

IBM IMS High Performance Image Copy for z/OS

V04.02.00

Program Number 5655-N45

FMID H1J0420

for Use with
z/OS

Document Date: February 2010

GI10-8671-02

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, “Notices” on page 24.

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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 Image Copy for z/OS. This publication refers to IBM IMS High Performance Image Copy for z/OS as IMS HP Image Copy.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for IMS HP Image Copy.
- 3.0, “Program Support” on page 6 describes the IBM support available for IMS HP Image Copy.
- 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 Image Copy.
- 5.0, “Installation Requirements and Considerations” on page 10 identifies the resources and considerations that are required for installing and using IMS HP Image Copy.
- 6.0, “Installation Instructions” on page 17 provides detailed installation instructions for IMS HP Image Copy. It also describes the procedures for activating the functions of IMS HP Image Copy, or refers to appropriate publications.

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

IMS HP Image Copy 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 that is provided with your order. All service and HOLDDATA for IMS HP Image Copy are included on the CBPDO tape.

Do not use this program directory if you install IMS HP Image Copy with a SystemPac or ServerPac. When you use these offerings, use the jobs and documentation supplied with the offering. This program directory can point you to specific sections of it as required.

1.1 IMS HP Image Copy Description

IMS High Performance (HP) Image Copy for z/OS, V4.2 (5655-N45) delivers faster back up and recovery of database data sets using advanced copy technology and extends the capabilities of IMS.

Using image copies to create backup data is essential to the timely recovery of databases after a loss of data or a programming mistake. However, taking data offline can reduce user productivity and negatively impact your business. IMS High Performance Image Copy helps you speed recovery time by supporting

quicker copy and restarting methods, and can help your system users become more productive and support efforts to avoid expensive losses from missed business opportunities.

IMS High Performance Image Copy for z/OS:

- Provides rapid image copy features to help reduce the unavailability time of database data sets
- Enables automated operation that takes the database offline before taking a batch image copy and restarts it after the process
- Allows you to check the accuracy of the pointers of your database during the image copy process
- Lets you take image copies of multiple database data sets in parallel
- Creates copies from an IMS standard image copy data set or from a compressed image copy data set
- Helps reduce operational and media costs by compressing image copies
- Reduces the number of tapes used by stacking more than one image copy on the same tape
- Takes image backups while various reorganization tools are executing which enables you to use the databases immediately after they are reorganized
- Enables you to run the image copy process automatically after a database is reorganized when used with IMS High Performance Fast Path Advanced Tool or IMS Database Reorganization Expert, formerly named IMS Parallel Reorganization
- Enables you to check the accuracy of the pointers of your database while the database is reorganized when used with IMS High Performance Pointer Checker or IMS Database Reorganization Expert, formerly named IMS Parallel Reorganization

IMS High Performance Image Copy for z/OS, V4.2 provides the following new functions and enhancements:

- **Checkpoint/Restart capability with image copy stacking.**
  If one of the image copy processes fails, you can retry the failed image copy process and its subsequent image copy processes on the same stacked tape.
- **Minimize DB offline time for databases when using stacking.** All databases are made available right after their logical copy end, without waiting for physical image copy stacking.
- **Capability to suspend online applications from allocating the database for which the batch image copy process is requested.**
  Using this function, you do not need to terminate online applications before the batch image copy process begins. Additionally, the online applications will automatically restart after the image copy process ends. This function uses the database quiesce function of IMS. It is not supported before IMS V11.
- **Hash check option enabled with the Fast Recovery Image Copy option of the Advanced Image Copy function.** Hash check is done for output image copy data sets, after Flash Copy or Snap Shot is done. Using this function, you can verify that your image copy data set is correct. You can choose when to make the database available for online use, either before or after Hash Check.

1.2 IMS HP Image Copy FMID

IMS HP Image Copy consists of the following FMID:

H1J0420

2.0 Program Materials

An IBM program is identified by a program number and feature numbers. The program number for IMS HP Image Copy is 5655-N45 and the feature numbers are 5802 and 5812.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

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

2.1 Basic Machine-Readable Material

The distribution medium for this program is magnetic tape 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 17 for more information about how to install the program.

You can find information about the physical tape for the basic machine-readable materials for IMS HP Image Copy in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for IMS HP Image Copy. You can refer to the *CBPDO Memo To Users Extension* to see where the files reside on the tape.

Notes:

1. The data set attributes in this table must be used in the JCL of jobs that read the data sets. However, because the data sets are in IEBCOPY unloaded format, their actual attributes might be different.
2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1. Program File Content for IMS HP Image Copy

Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.H1J0420.F1	PDS	FB	80	8800
IBM.H1J0420.F2	PDS	FB	80	8800
IBM.H1J0420.F3	PDS	U	0	6144
IBM.H1J0420.F4	PDS	FB	80	8800
IBM.H1J0420.F5	PDS	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for IMS HP Image Copy.

2.3 Program Publications

The following sections identify the basic and optional publications for IMS HP Image Copy.

2.3.1 Basic Program Publications

Figure 2 identifies the basic unlicensed program publications for IMS HP Image Copy. One copy of each of these publications is included when you order the basic materials for IMS HP Image Copy. For additional copies, contact your IBM representative.

Figure 2. Basic Material: Unlicensed Publications

Publication Title	Form Number
IBM IMS High Performance Image Copy for z/OS License Information	GC18-9408

Figure 3 identifies the basic unlicensed or licensed publications that are not available in hardcopy format, but are available through the internet or other media for IMS HP Image Copy.

Figure 3. Basic Material: Other Unlicensed or Licensed Publications

Publication Title	Form Number	How Available
IBM IMS High Performance Image Copy for z/OS User's Guide	SC19-2756	http://www.ibm.com/software/data/db2imstools/library.html

2.3.2 Optional Program Publications

No optional publications are provided for IMS HP Image Copy.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for IMS HP Image Copy.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 4 on page 5 during the installation of IMS HP Image Copy. To order copies, contact your IBM representative or visit the IBM Publications Center at http://www.ibm.com/shop/publications/order.

Figure 4. Publications Useful During Installation

Publication Title	Form Number
IBM SMP/E for z/OS User's Guide	SA22-7773
IBM SMP/E for z/OS Commands	SA22-7771
IBM SMP/E for z/OS Reference	SA22-7772
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA22-7770

3.0 Program Support

This section describes the IBM support available for IMS HP Image Copy.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IMS HP Image Copy, make sure that you have reviewed the current Preventive Service Planning (PSP) information. The PSP Buckets maintain current lists (which have been identified since the package was created) of any recommended or required service for the installation of this package. This service includes software PSP information that contains HIPER and required PTFs against the base release.

If you obtained IMS HP Image Copy as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IMS HP Image Copy is older than two weeks old by the time you install the product materials, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the latest PSP Bucket information. You can also obtain the latest PSP Bucket information by going to the following Web site:
https://techsupport.services.ibm.com/server/390.psp390

For program support, access the Software Support Web site at http://www.ibm.com/software/support/.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for IMS HP Image Copy are shown as follows:

Figure 5. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5655N45	H1J0420	IMS HP Image Copy

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 6 on page 7 identifies the component IDs (COMPID) for IMS HP Image Copy.

Figure 6. Component IDs

FMID	COMPID	Component Name	RETAIN Release
H1J0420	5655K9600	IMS HP Image Copy	420

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IMS HP Image Copy. 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.

4.1 Program Level Information

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

- FMID H1J0410 (IMS HP Image Copy)

PK09541	PK23423	PK37644
PK09722	PK23701	PK37981
PK11605	PK23714	PK38377
PK12997	PK23784	PK39458
PK14099	PK23876	PK39461
PK14105	PK24693	PK39795
PK14295	PK25028	PK39968
PK14331	PK25484	PK41107
PK14382	PK26299	PK41535
PK14562	PK26896	PK41920
PK15050	PK27225	PK41921
PK15169	PK27395	PK41922
PK15594	PK28092	PK42644
PK15598	PK28108	PK43361
PK15843	PK29015	PK43716
PK16009	PK30631	PK45121
PK16156	PK31006	PK45371
PK16454	PK31299	PK45462
PK16726	PK32026	PK46921
PK16728	PK32028	PK46960
PK16733	PK33115	PK47222
PK17130	PK33608	PK48191
PK18068	PK34133	PK48318
PK18715	PK34198	PK49160
PK18978	PK35048	PK49914
PK19977	PK35110	PK50542
PK21070	PK35129	PK51003
PK21502	PK35954	PK53839
PK21666	PK36006	PK53858
PK22704	PK36213	PK55442
PK23109	PK36670	PK55693

PK57985	PK68121	PK82370
PK58094	PK68158	PK82467
PK58921	PK68272	PK83503
PK60299	PK69500	PK84204
PK61021	PK70349	PK85898
PK61486	PK72893	PK87250
PK61849	PK73511	PK87563
PK62163	PK74296	PK87615
PK62351	PK75559	PK91050
PK63113	PK75674	PK91965
PK63321	PK76238	PK94931
PK63957	PK78236	PK95360
PK66570	PK78239	PK96674
PK66575	PK79032	PK97330
PK66880	PK80381	PK97537
PK67873	PK80766	PK99132
		PK99259

4.2 Service Level Information

No PTFs against this release of IMS HP Image Copy have been incorporated into the product tape.

It is highly recommended that you frequently check the IMS HP Image Copy PSP Bucket for HIPER and SPECIAL Attention PTFs against all FMIDs that you must install.

5.0 Installation Requirements and Considerations

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

- *Driving system*: the system used to install the program; where SMP/E executes.

  The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.

- *Target system*: the system on which the program is configured and run.

  The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

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 udpates, 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 access these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system that is required to install IMS HP Image Copy.

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 7. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in this product's shipment?
Any **one** of the following:				
5694-A01	z/OS	V01.09.00	N/A	No
5655-G44	IBM SMP/E for z/OS	V03.04.00	N/A	No

Note: Installation may 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.

5.2 Target System Requirements

This section describes the environment of the target system that is required to install and use IMS HP Image Copy.

IMS HP Image Copy 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 by and *must* be present on the system or products that are not required by 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 8. Target System Mandatory Installation Requisites

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in this product's shipment?
5655-V93	IBM IMS Tools Base for z/OS	V01.01.00	N/A	No

Note: Installation may 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.

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 Image Copy has no conditional installation requisites.

5.2.2.2 Operational Requisites:

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

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

Figure 9. Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
Any **one** of the following:	
5655-J38	IMS V09.01.00
5635-A01	IMS V10.01.00
5635-A02	IMS V11.01.00

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.

Figure 10 (Page 1 of 2). Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
Any **one** of the following:		

Figure 10 (Page 2 of 2). Target System Conditional Operational Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5655-R05	IBM IMS High Performance Fast Path Utilities for z/OS V03.01.00 or later	For DEDB Hash Pointer Check
5655-W14	IBM IMS Fast Path Solution Pack for z/OS, V01.01.00	For DEDB Hash Pointer Check
Any **one** of the following:		
5655-U09	IBM IMS High Performance Pointer Checker for z/OS V03.01.00	For HDPC Hash Pointer Check
5655-S77	IBM IMS Database Solution Pack for z/OS, V01.01.00	For HDPC Hash Pointer Check

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 Image Copy 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 Image Copy has no negative requisites.

5.2.3 DASD Storage Requirements

IMS HP Image Copy libraries can reside on all supported DASD types.

Figure 11 lists the total space that is required for each type of library.

Figure 11. Total DASD Space Required by IMS HP Image Copy	
Library Type	**Total Space Required in 3390 Trks**
Target	440 tracks
Distribution	440 tracks

Notes:

1. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization. For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from the performance and DASD utilization perspective.

2. 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 6.1.7, “Allocate SMP/E Target and Distribution Libraries” on page 20.

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

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

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

   - The default name of the data set may be changed.
   - The default block size of the data set may be changed.
   - The data set may be merged with another data set that has equivalent characteristics.
   - The data set may be either a PDS or 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 LNKLST.
   - These data sets are required to be APF-authorized.

The following figures describe the target and distribution libraries and file system paths required to install IMS HP Image Copy. The storage requirements of IMS HP Image Copy must be added to the storage required by other programs having data in the same library or path.

Note: The data in these tables should be used when determining which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 12. Storage Requirements for IMS HP Image Copy Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SHPSBASE	SAMPLE	Any	S	PDS	FB	80	30	35
SHPSJCL0	SAMPLE	Any	S	PDS	FB	80	40	20
SHPSMAC0	Macro	Any	S	PDS	FB	80	70	60
SHPSLMD0	LMOD	Any	S	PDS	U	0	230	200
SHPSSAMP	SAMPLE	Any	S	PDS	FB	80	70	60

Figure 13. Storage Requirements for IMS HP Image Copy Distribution Libraries

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
AHPSJCL0	S	PDS	FB	80	70	60
AHPSMAC0	S	PDS	FB	80	70	60
AHPSMOD0	S	PDS	U	0	230	200
AHPSSAMP	S	PDS	FB	80	70	60

5.3 FMIDs Deleted

Installing IMS HP Image Copy 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 Image Copy 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, see the SMP/E manuals for instructions.

5.4 Special Considerations

- Ensure sufficient space and directory blocks are available to support the requirements listed in the DASD Space Required table.
- The PSP Bucket will have the most current information and must be reviewed before installation.

IMS Tools Base for z/OS - FMID HAHN110 and its predecessor FMIDs:

- IMS Tools Base for z/OS, V1.1 (program number 5655-V93), FMID HAHN110, is required by multiple IMS Tools products including IMS HP Image Copy.
- It is strongly recommended that all the IMS tools that use IMS Tools Base for z/OS (FMID HAHN110) be installed into the same SMP/E target and distribution zones to avoid maintaining multiple instances of the IMS Tools Base for z/OS FMID.
  If you use different SMP/E target and distribution zones, you will have to install and maintain multiple instances of the same FMID, which will increase your maintenance and DASD requirements.
- FMID HAHN110 is a merger of multiple FMIDs. It DELETEs and SUPERSEDEs the following, previously released, FMIDs:
  - Common Code IMS Tools Online System Interface, FMID H2B7110 and H2B7120
  - Common Code IMS Tools Generic Exits, FMID H32A110, H32A120, and H32A130
  - IMS Hardware Data Compression Extended, FMID H08J110, H08J120, H22D210, and H22D220
  - IMS Tools Knowledge Base, FMID HABW110
- Should you receive FMID H2B7110, H2B7120, H32A110, H32A120, or H32A130 with another IMS tool and plan to install any of these FMIDs into the same distribution and target zones where you would nominally have installed FMID HAHN110, do not install any of the superseded FMIDs into this environment. Install IMS Tools Base for z/OS instead.
- For data set directory blocks and space requirements of the various IMS tools and Solution Packs, refer to distribution and target library requirements section specified in the particular program directory.
- For migration and customization information, refer to IMS Tools Base for z/OS: IMS Common Services User's Guide, SC19-2894 at URL:
  http://www.ibm.com/software/data/db2imstools/library.html

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 Image Copy.

Please note the following:

- If you want to install IMS HP Image Copy 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.
- 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.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing IMS HP Image Copy

6.1.1 SMP/E Considerations for Installing IMS HP Image Copy

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

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.

Figure 14. SMP/E Options Subentry Values

Subentry	Value	Comment
DSSPACE	(200,200,500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 Sample Jobs

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

Figure 15. Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
FABJCSIA	SMP/E	Sample job to allocate new SMP/E data sets **(Optional)**	IBM.H1J0420.F2
FABJCSID	SMP/E	Sample job to define SMP/E zones and DDDEFs **(Optional)**	IBM.H1J0420.F2
FABJRECV	RECEIVE	Sample RECEIVE job	IBM.H1J0420.F2
FABJALLC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.H1J0420.F2
FABJDDEF	DDDEF	Sample job to define SMP/E DDDEFs libraries	IBM.H1J0420.F2
FABJAPPL	APPLY	Sample APPLY job	IBM.H1J0420.F2
FABJACCP	ACCEPT	Sample ACCEPT job	IBM.H1J0420.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 15 on page 17 to find the appropriate relfile data set.

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

```
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//*************************************************************
//* Make the //TAPEIN DD statement below active if you install*
//* from a CBPDO tape by uncommenting the DD statement below. *
//*************************************************************
//*TAPEIN DD DSN=IBM.H1J0420.F2,UNIT=tunit,
//* VOL=SER=volser,LABEL=(x,SL),
//* DISP=(OLD,KEEP)
//*************************************************************
//* Make the //TAPEIN DD statement below active if you install*
//* from a product tape received outside the CBPDO process    *
//* (using the optional SMP/E RECEIVE job) by uncommenting    *
//* the DD statement below.                                   *
//*************************************************************
//*TAPEIN DD DSN=IBM.H1J0420.F2,UNIT=tunit,
//* VOL=SER=1J0420,LABEL=(3,SL),
//* DISP=(OLD,KEEP)
//*************************************************************
//* Make the //FILEIN DD statement below active for           *
//* downloaded DASD files.                                    *
//*************************************************************
//*FILEIN DD DSN=IBM.H1J0420.F2,UNIT=SYSALLDA,DISP=SHR,
```

```
//* VOL=SER=filevol
//OUT     DD DSNAME=jcl-library-name,
//           DISP=(NEW,CATLG,DELETE),
//           VOL=SER=dasdvol,UNIT=SYSALLDA,
//           SPACE=(TRK,(20,10,5))
//SYSUT3  DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN   DD *
    COPY INDD=xxxxIN,OUTDD=OUT
/*
```

In the sample above, update the statements as noted below:

If using TAPEIN:
- **tunit** is the unit address where the product tape is mounted
- **volser** is the volume serial matching the product tape
- **x** is the tape file number where the data set name is on the tape
- Refer to the documentation provided by CBPDO to see where IBM.H1J0420.F2 is on the tape.

If using 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 will be stored
- **dasdvol** is the volume serial of the DASD device where the output data set will reside

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

6.1.4 Allocate SMP/E data sets (Optional)

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

If you are allocating new SMP/E data sets for this install, edit, and submit sample job FABJCSIA to allocate the SMP/E data set for IMS HP Image Copy. 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.

6.1.5 Initialize SMP/E data sets (Optional)

Edit and submit sample job FABJCSID to initialize SMP/E zones for IMS HP Image Copy. 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.

6.1.6 Perform SMP/E RECEIVE

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

You can also choose to edit and submit sample job FABJRECV to perform the SMP/E RECEIVE for IMS HP Image Copy. 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 Allocate SMP/E Target and Distribution Libraries

All data sets used by IMS HP Image Copy are allocated by other products, so no new allocations are required.

Edit and submit sample job FABJALLC to allocate the SMP/E target and distribution libraries for JCL, module, and sample of IMS HP Image Copy. 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 Create DDDEF Entries

All DDDEFs used by IMS HP Image Copy are created by other products, so no new DDDEFs are required.

Edit and submit sample job FABJDDEF to create DDDEF entries for the SMP/E target and distribution libraries for JCL, module, and SAMPLE of IMS HP Image Copy. 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.

6.1.9 Perform SMP/E APPLY

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

   Perform an SMP/E APPLY CHECK for IMS HP Image Copy.

   HOLDDATA introduces ERROR HOLDs against FMIDs for HIPER APARs. Before the installation, ensure that you have the latest HOLDDATA, which is available through several different portals, including http://service.software.ibm.com/holdata/390holddata.html. Install the FMIDs regardless of the status of unresolved HIPERs. However, don't deploy the software until the unresolved HIPERs are analyzed to determine applicability.

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. This is because 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 two methods to install FMIDs when ++HOLDs for HIPERs exist for the FMIDs that you install:

a. To ensure that all recommended and critical service is installed with the FMIDs, if you are using SMP/E 3.5 or higher and have received the latest HOLDDATA, add the FIXCAT operand to the APPLY command as shown below. If you are using a prior release of SMP/E, add the SOURCEID(HIPER,RSU*) operand to the APPLY command.

```
If using SMP/E V3.5 or higher:
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
If using SMP/E V3.4 or prior:
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(HIPER,RSU*)
GROUPEXTEND .
```

   Some HIPER APARs might not have PTFs available yet. You have to analyze the symptom flags to determine if you want to bypass the specific ERROR HOLDs and continue the installation of the FMIDs.

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

b. To install the FMIDs without regard for the HIPERs, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. In this way, you can install FMIDs even though HIPER ERROR HOLDs against them still exist. Only the HIPER ERROR HOLDs are bypassed. After the FMIDs are installed, run the SMP/E REPORT ERRSYSMODS command to identify missing HIPER maintenance.

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

   This method is the quicker of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs. If you are running SMP/E V3.5 or higher and have received the latest HOLDDATA, you can also choose to run REPORT MISSINGFIX for Fix Category IBM.ProductInstall.RequiredService to investigate missing recommended service.

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

2. 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 CHECK: You will receive a return code of 0 if this job runs correctly.

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

6.1.10 Execute Installation Verification Program for IMS HP Image Copy

Edit and submit job **FABJIVP** in the **SHPSJCL0** library to run the IVP for IMS HP Image Copy Consult the instructions in the job for more information.

6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job FABJACCP to perform an SMP/E ACCEPT CHECK for IMS HP Image Copy. Consult the instructions in the sample job for more information.

Perform an SMP/E ACCEPT CHECK for IMS HP Image Copy.

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. This is because the SMP/E root cause analysis identifies the cause of only *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 manuals.

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 CHECK: You will receive a return code of 0 if this job runs correctly.

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

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

6.1.12 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones. This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set. You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install IMS HP Image Copy, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

For more information about REPORT CROSSZONE, see the SMP/E manuals.

6.2 Activating IMS HP Image Copy

For customization and use of the various components of IMS HP Image Copy refer to the following publications:

- IMS High Performance Image Copy for z/OS User's Guide, SC19-2756
- IMS Tools Base for z/OS: IMS Common Services User's Guide, SC19-2894
- IMS Tools Base for z/OS: IMS Tools Knowledge Base User's Guide, SC19-2895

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Program Directory for IBM IMS High Performance Image Copy for z/OS, February 2010

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RATING SCALE

```
  very                                very          not
satisfied  <====================>  dissatisfied  applicable
    1        2        3        4         5            N
```

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of Program Directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of Program Directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of getting the system into production after installation	1	2	3	4	5	N

How did you order this product?

___ CBPDO
___ CustomPac
___ ServerPac
___ Independent
___ Other

Is this the first time your organization has installed this product?

___ Yes
___ No

Were the people who did the installation experienced with the installation of z/OS products?

___ Yes

__ No

If yes, how many years? __

If you have any comments to make about your ratings above, or any other aspect of the product installation, please list them below:

_____
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