



# **Program Directory for IBM Z Software Asset Management**

V8.3.0

Program Number 5698-AA4

FMID HHSI830

for Use with  
z/OS

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GI13-5230-01

**Note**

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 22.

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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 Z Software Asset Management. This publication refers to IBM Z Software Asset Management as IBM Z SW Asset Mgmt.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for IBM Z SW Asset Mgmt.
- 3.0, “Program Support” on page 5 describes the IBM support available for IBM Z SW Asset Mgmt.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) that have been incorporated into IBM Z SW Asset Mgmt.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using IBM Z SW Asset Mgmt.
- 6.0, “Installation Instructions” on page 16 provides detailed installation instructions for IBM Z SW Asset Mgmt. It also describes the procedures for activating the functions of IBM Z SW Asset Mgmt, or refers to appropriate publications.

Before installing IBM Z SW Asset Mgmt, 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 5 tells you how to find any updates to the information and procedures in this program directory.

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

Do not use this program directory if you install IBM Z SW Asset Mgmt with a 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 IBM Z SW Asset Mgmt Description

IBM Z SW Asset Mgmt is used to scan the DASD of a z/OS system or systems and determine the software products installed on those systems. It includes the ability to monitor the execution, and report on the usage, of software products.

IBM Z SW Asset Mgmt provides answers to the following:

1. What software is installed?

2. Who is using the software?
3. What are the usage trends of the installed software?

There are many benefits of accurate answers to these questions, including:

- Reduced or eliminated license compliance exposure.
- Improved data center consolidation and configuration management.
- Improved value-based charge-back programs.
- Effective disaster recovery.
- Obsolete versions of software are discovered and the usage of these versions understood which may result in reduced vendor software expense.
- The usage trends of software and libraries can be charted.

Some of the benefits your organization can achieve using IBM Z SW Asset Mgmt are relatively easy to obtain and have immediate short term value. For example, as soon as software inventory and usage data is created you can start using the information to review license and maintenance fees which may then be eliminated. When coordinated with a comprehensive software asset management program, the use of data provided by IBM Z SW Asset Mgmt will help provide continued savings year on year.

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## 1.2 IBM Z SW Asset Mgmt FMID

IBM Z SW Asset Mgmt consists of the following FMID:

HHSI830

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## 2.0 Program Materials

An IBM program is identified by a program number. The program number for IBM Z SW Asset Mgmt is 5698-AA4.

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 IBM Z SW Asset Mgmt. 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 IBM Z SW Asset Mgmt in the *CBPDO Memo To Users Extension*.

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### 2.2 Program Publications

The following sections identify the basic publications for IBM Z SW Asset Mgmt.

Figure 1 identifies the basic licensed program publications for IBM Z SW Asset Mgmt.

<i>Figure 1. Basic Material: Licensed Publications</i>		
<b>Publication Title</b>	<b>Form Number</b>	<b>Media Format</b>
IBM Z Software Asset Management License Information	LC27-9718	

Figure 2 identifies the basic unlicensed publications for IBM Z SW Asset Mgmt. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at <https://www.ibm.com/resources/publications>

<i>Figure 2. Basic Material: Unlicensed Publications</i>		
<b>Publication Title</b>	<b>Form Number</b>	<b>Media Format</b>
IBM Z Software Asset Management Administration Guide and Reference	SC22-5474	Knowledge Center

No optional publications are provided for IBM Z SW Asset Mgmt.

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## 2.3 Program Source Materials

No program source materials or viewable program listings are provided for IBM Z SW Asset Mgmt.

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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 IBM Z SW Asset Mgmt.

*Figure 3. Publications Useful During Installation*

<b>Publication Title</b>	<b>Form Number</b>	<b>Media Format</b>
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277	<a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a>
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275	<a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a>
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276	<a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a>
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883	<a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a>

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## 3.0 Program Support

This section describes the IBM support available for IBM Z SW Asset Mgmt.

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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 IBM Z SW Asset Mgmt, 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 6.1.8, “Perform SMP/E APPLY” on page 18 for a sample APPLY command

If you obtained IBM Z SW Asset Mgmt as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IBM Z SW Asset Mgmt 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 IBM Z SW Asset Mgmt are included in Figure 4.

*Figure 4. PSP Upgrade and Subset ID*

UPGRADE	SUBSET	Description
LICENSEMGR	HHSI830	IBM Z SW Asset Mgmt

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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 6 identifies the component IDs (COMPID) for IBM Z SW Asset Mgmt.

<i>Figure 5. Component IDs</i>			
<b>FMID</b>	<b>COMPID</b>	<b>Component Name</b>	<b>RETAIN Release</b>
HHSI830	5698B39TD	IBM Z SW Asset Mgmt	830

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## 4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IBM Z SW Asset Mgmt. 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 IBM Z SW Asset Mgmt have been incorporated into this release. They are listed by FMID.

- FMID HHSI820

OA65032	OA64004	OA63247
OA65135	OA64098	OA63345
OA65092	OA64074	OA63331
OA65019	OA64003	OA63307
OA65040	OA64059	OA63326
OA65006	OA63665	OA63301
OA65020	OA64031	OA63153
OA64956	OA63958	OA63251
OA64886	OA63913	OA63224
OA64796	OA63983	OA63234
OA64581	OA63941	OA63205
OA64773	OA63804	OA63012
OA64720	OA63857	OA63056
OA64618	OA63872	OA63005
OA64524	OA63789	OA62839
OA64617	OA63735	OA63013
OA64486	OA63774	OA62951
OA64412	OA63741	OA62921
OA64463	OA63697	OA62935
OA64411	OA63633	OA62869
OA64398	OA63591	OA62852
OA64404	OA63556	OA62909
OA64348	OA63496	OA62790
OA64323	OA63513	OA62815
OA64288	OA63495	OA62791
OA64298	OA63452	OA62774
OA64317	OA63351	OA62684
OA64275	OA63469	OA62678
OA64174	OA63302	OA62767
OA64160	OA63378	OA62665
OA64105	OA63364	OA62685

OA62631	OA62137	OA61413
OA62624	OA62092	OA61256
OA62623	OA62086	OA61374
OA62600	OA61701	OA61356
OA62508	OA62039	OA61298
OA62445	OA61745	OA61142
OA62490	OA61753	OA61088
OA62478	OA61725	OA61306
OA62516	OA61964	OA61121
OA62400	OA61431	OA61120
OA62272	OA61911	OA60978
OA62369	OA61700	OA60917
OA62189	OA61692	OA60935
OA62271	OA61587	OA60840
OA62282	OA61461	OA60632
OA62219	OA61540	OA65050
OA62234	OA61467	OA65204
		OA65234

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## 4.2 Service Level Information

No PTFs against this release of IBM Z SW Asset Mgmt have been incorporated into the product package.

Frequently check the IBM Z SW Asset Mgmt PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the **FIXCAT(IBM.PRODUCTINSTALL-REQUIRESERVICE)** operand on your **APPLY CHECK** command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating IBM Z SW Asset Mgmt. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.  
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 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 IBM Z SW Asset Mgmt.

#### 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	V02.04.00	N/A	No

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

**Note:** Installation might require migration to new z/OS releases to be service supported. See [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 IBM Z SW Asset Mgmt.

IBM Z SW Asset Mgmt installs in the z/OS (Z038) SREL.

### 5.2.1 Machine Requirements

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

### 5.2.2 Programming Requirements

#### 5.2.2.1 Installation Requisites

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

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

IBM Z SW Asset Mgmt has no mandatory installation requisites.

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.

IBM Z SW Asset Mgmt 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.

IBM Z SW Asset Mgmt has no mandatory operational requisites.

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.

<i>Figure 7. Target System Conditional Operational Requisites</i>		
<b>Program Number</b>	<b>Product Name and Minimum VRM/Service Level</b>	<b>Function</b>
Any <b>one</b> of the following:		
5650-DB2	DB2 for z/OS V12.1.0	IZSAM Database Respository
5770-AF4	IBM DB2 Utilities Suite for z/OS V12.01.00	Required for managing the IZSAM Database - such as backup, restore and reorganization
<b>OR</b>		
5770-AF3	DB2 for z/OS Value Unit Edition V12.01.00	IZSAM Database Respository
5770-AF4	IBM DB2 Utilities Suite for z/OS V12.01.00	Required for managing the IZSAM Database - such as backup, restore and reorganization
<b>OR</b>		
5698-DB2	DB2 for z/OS V13.1.0	IZSAM Database Respository
5698-DUT	IBM DB2 Utilities Suite for z/OS V13.01.00	Required for managing the IZSAM Database - such as backup, restore and reorganization
<b>OR</b>		
5698-DBV	DB2 for z/OS Value Unit Edition for z/OS V13.01.0	IZSAM Database Respository
5698-DUT	IBM DB2 Utilities Suite for z/OS V13.01.00	Required for managing the IZSAM Database - such as backup, restore and reorganization

### 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.

IBM Z SW Asset Mgmt 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.

IBM Z SW Asset Mgmt has no negative requisites.

## 5.2.3 DASD Storage Requirements

IBM Z SW Asset Mgmt libraries can reside on all supported DASD types.

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

<i>Figure 8. Total DASD Space Required by IBM Z SW Asset Mgmt</i>	
<b>Library Type</b>	<b>Total Space Required in 3390 Trks</b>
Target	2810
Distribution	2810

#### 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 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 18.

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 might 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 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 not be in the LPA, with some exceptions. If the value in the "Member Type" column specifies "LPA", it is advised to place the data set in the LPA.
- These data sets can be in the LNKLIST.
- These data sets are not required to be APF-authorized, with some exceptions. If the value in the "Member Type" column specifies "APF", the data set must be APF-authorized.

The following figures describe the target and distribution libraries and file system paths required to install IBM Z SW Asset Mgmt. The storage requirements of IBM Z SW Asset Mgmt must be added to the storage required by other programs that have data in the same library or path.

**Note:** Use the data in these tables to determine 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 9. Storage Requirements for IBM Z SW Asset Mgmt Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SHSIANL1	HTML Reports	ANY	U	PDSE	VB	255	60	n/a
SHSIANL2	Java Script	ANY	U	PDSE	VB	255	30	n/a
SHSIEEXEC	Rexx EXEC	ANY	U	PDSE	FB	80	15	n/a
SHSIGKB1	Data	ANY	U	PDSE	FB	1024	1125	n/a
SHSIMJPN	MMS Message - Japan	ANY	U	PDSE	VB	259	15	n/a
SHSIMOD1	Load Library	ANY	U	PDSE	U	0	1500	n/a
SHSIPARM	Parms	ANY	U	PDSE	FB	80	30	n/a
SHSIPROC	Proc	ANY	U	PDSE	FB	80	5	n/a
SHSISAMP	Samples	ANY	U	PDSE	FB	80	30	n/a

Figure 10. Storage Requirements for IBM Z SW Asset Mgmt 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
AHSIANL1	U	PDSE	VB	255	60	n/a
AHSIANL2	U	PDSE	VB	255	30	n/a
AHSIEEXEC	U	PDSE	FB	80	15	n/a
AHSIGKB1	U	PDSE	FB	1024	1125	n/a
AHSIMJPN	U	PDSE	VB	259	15	n/a
AHSIMOD1	U	PDSE	U	0	1500	n/a
AHSIPARM	U	PDSE	FB	80	30	n/a
AHSIPROC	U	PDSE	FB	80	5	n/a
AHSISAMP	U	PDSE	FB	80	30	n/a

---

## 5.3 FMIDs Deleted

Installing IBM Z SW Asset Mgmt 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 IBM Z SW Asset Mgmt 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 book for details.

---

## 5.4 Special Considerations

IBM Z SW Asset Mgmt uses the "Partitioned Data Set Extended" or PDSE format for all libraries. There are some operational differences between PDS and PDSE data sets. The PDS format may be shared by more than one z/OS system and no special precautions are necessary. However the PDSE format may only be shared by z/OS systems which are part of a sysplex or which are connected using Global Resource Serialization or GRS complex. If z/OS systems share use of a PDSE data set outside of a sysplex or GRS environment, you may experience severe problems if the data set is updated. This is due to the fact that PDSE directory information is cached in storage, and when the data set is updated from one system the other system(s) have no knowledge of the update, and their cached directory information will be incorrect. You must take care not to share PDSE data sets between z/OS systems unless they are in a sysplex or are connected in a GRS complex.

Please be aware that this release requires some database changes to be performed. These changes MUST be done and are documented in the Administration manual as well as the JCLLIB once the customisation job is run.

Web Browser can be either:

- Firefox with JavaScript and cookies enabled
- Google Chrome with JavaScript and cookies enabled
- Microsoft Edge with JavaScript and cookies enabled

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## 6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of IBM Z SW Asset Mgmt.

Please note the following points:

- If you want to install IBM Z SW Asset Mgmt 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.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

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### 6.1 Installing IBM Z SW Asset Mgmt

#### 6.1.1 SMP/E Considerations for Installing IBM Z SW Asset Mgmt

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of IBM Z SW Asset Mgmt.

#### 6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 11. 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 11. SMP/E Options Subentry Values*

Subentry	Value	Comment
DSSPACE	300,50,100	Space allocation for SMPTLIB datasets
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

#### 6.1.3 SMP/E CALLLIBS Processing

IBM Z SW Asset Mgmt does not use CALLLIBS Processing.

## 6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install IBM Z SW Asset Mgmt:

*Figure 12. Sample Installation Jobs*

Job Name	Job Type	Description	RELFILE
HSISRECV	RECEIVE	Sample RECEIVE job	IBM.HHSI830.F1
HSISALOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HHSI830.F1
HSISDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HHSI830.F1
HSISAPLY	APPLY	Sample APPLY job	IBM.HHSI830.F1
HSISACPT	ACCEPT	Sample ACCEPT job	IBM.HHSI830.F1

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.5, “Perform SMP/E RECEIVE” on page 18) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 12 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=*
//FILEIN DD DSN=IBM.HHSI830.F1,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jcl-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(15,5,4))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
SELECT MEMBER=(HSISACPT,HSISALOC,HSISAPLY,HSISDDEF,HSISRECV)
/*
```

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

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 the FILEIN for your input DD statement.

## 6.1.5 Perform SMP/E RECEIVE

If you have obtained IBM Z SW Asset Mgmt as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IBM Z SW Asset Mgmt 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 HSISSRECV to perform the SMP/E RECEIVE for IBM Z SW Asset Mgmt. 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 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job HSISSALOC to allocate the SMP/E target and distribution libraries for IBM Z SW Asset Mgmt. 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 Create DDDEF Entries

Edit and submit sample job HSISSDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IBM Z SW Asset Mgmt. 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 Perform SMP/E APPLY

Ensure that you have the latest HOLDDATA; then edit and submit sample job HSISSAPLY to perform an SMP/E APPLY CHECK for IBM Z SW Asset Mgmt. 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/holddata/390holddata.html>. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

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

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

Here are sample APPLY commands:

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

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

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

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

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

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

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

If you bypass 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.

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.

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.

## 6.1.9 Perform SMP/E ACCEPT

Edit and submit sample job HSISACPT to perform an SMP/E ACCEPT CHECK for IBM Z SW Asset Mgmt. Consult the instructions in the sample job for more information.

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

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

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

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

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## 6.2 Activating IBM Z SW Asset Mgmt

To make IBM Z SW Asset Mgmt fully operational after the SMP/E installation, post SMP/E work needs to be done.

The publication *IBM Z Software Asset Management Administration Guide and Reference, SC22-5474* contains the necessary information to customize and use IBM Z SW Asset Mgmt.

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