



# **Program Directory for z/OS Management Facility**

V1.13.0

Program Number 5655-S28

for Use with  
z/OS V1.13.0 or higher

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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 27.

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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/OS® Management Facility. This publication refers to IBM z/OS Management Facility as z/OS Management Facility.

IBM WebSphere® Application Server OEM Edition for z/OS is delivered as part of z/OS Management Facility. This program directory refers to it as WebSphere Application Server OEM Edition for z/OS.

The program directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for z/OS Management Facility.
- 3.0, “Program Support” on page 5 describes the IBM support available for z/OS Management Facility.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) that have been incorporated into z/OS Management Facility.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using z/OS Management Facility.
- 6.0, “Installation Instructions” on page 17 provides detailed installation instructions for z/OS Management Facility. It also describes the procedures for activating the functions of z/OS Management Facility, or refers to appropriate publications.

Before installing z/OS Management Facility, 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 5 tells you how to find any updates to the information and procedures in this program directory.

z/OS Management Facility is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The CBPDO tape for your order includes this program directory in softcopy format. All service and HOLDDATA for z/OS Management Facility is included on the CBPDO tape.

Do not use this program directory if you install z/OS Management Facility 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.

It is not necessary to install another copy of WebSphere Application Server OEM Edition for z/OS V7R0 if a copy is already installed on your target system. You must, however, ensure that your copy of WebSphere Application Server OEM Edition for z/OS has the minimum required service, which is shown in Figure 6 on page 11.

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## 1.1 z/OS Management Facility Description

IBM z/OS Management Facility (5655-S28) provides a modern, web-browser based management solution for z/OS. It can help to simplify, optimize, and modernize the z/OS system programmer experience by delivering solutions in a simplified, intuitive task-oriented user interface with guided or automated tasks and integrated user assistance. IBM z/OS Management Facility can help to make the day-to-day operations and administration of z/OS systems easier for both new and experienced system programmers.

z/OS Management Facility requires WebSphere Application Server OEM Edition for z/OS V7.0 as the runtime environment. IBM WebSphere Application Server OEM Edition for z/OS V7.0.0 is packaged with the product.

z/OS Management Facility also requires that all FMIDs listed to be installed prior to configuration and deployment.

For more information about z/OS Management Facility, visit the product Web site:

<http://www.ibm.com/systems/z/os/zos/zosmf/>

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## 1.2 z/OS Management Facility FMIDs

z/OS Management Facility consists of the following FMIDs:

- HSMA130
- HSMA131
- HSMA132
- HSMA133
- HSMA134
- HSMA135
- HSMA136
- HSMA13A
- HSMA13F
- HBBN700

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## 2.0 Program Materials

An IBM program is identified by a program number. The program number for z/OS Management Facility is 5655-S28.

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 z/OS Management Facility. 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 magnetic tape or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. For more information about how to install the program, see 6.0, "Installation Instructions" on page 17.

You can find information about the physical tape for the basic machine-readable materials for z/OS Management Facility in the *CBPDO Memo To Users Extension*.

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### 2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for z/OS Management Facility.

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## 2.3 Program Publications

The following sections identify the basic and optional publications for z/OS Management Facility.

### 2.3.1 Basic Program Publications

The basic package includes a copy of the License Information document (GC52-1263-03).

The basic publications and other information about z/OS Management Facility are available electronically at <http://www.ibm.com/shop/publications/order>.

### 2.3.2 Optional Program Publications

Figure 1 identifies the optional unlicensed or licensed publications that are not available in hardcopy format, but are available through the internet or other media for z/OS Management Facility.

*Figure 1. Optional Material: Other Optional Publications*

<b>Publication Title</b>	<b>Form Number</b>	<b>How Available</b>
IBM z/OS Management Facility Configuration Guide	SA38-0652	<a href="http://publibz.boulder.ibm.com/epubs/pdf/izuz3120.pdf">http://publibz.boulder.ibm.com/epubs/pdf/izuz3120.pdf</a>
IBM WebSphere Application Server OEM Edition for z/OS Configuration Guide, Version 7.0	GA32-0631	<a href="http://publibz.boulder.ibm.com/epubs/pdf/bbncfg80.pdf">http://publibz.boulder.ibm.com/epubs/pdf/bbncfg80.pdf</a>

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## 2.4 Program Source Materials

No program source materials or viewable program listings are provided for z/OS Management Facility.

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## 2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 2 during the installation of z/OS Management Facility. 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>

*Figure 2. Publications Useful During Installation*

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



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## 3.0 Program Support

This section describes the IBM support available for z/OS Management Facility. The subscription and Support number for z/OS Management Facility is 5655-S29.

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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 z/OS Management Facility, 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 (ZMAZOS) that contains HIPER and required PTFs against the base release.

Although SW, HW, and functional PSP Buckets might have overlap, review all that apply to this package to ensure that you identify all the known service that is required for your installation of this package.

If you obtained z/OS Management Facility as part of a CBPDO, HOLDDATA is included.

If the CBPDO for z/OS Management Facility is older than two weeks old by the time you install the product materials, you should obtain the latest PSP Bucket information by going to the following Web site:

<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 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 z/OS Management Facility are shown as follows:

*Figure 3 (Page 1 of 2). PSP Upgrade and Subset ID*

UPGRADE	SUBSET	Description
ZMAZOS	HSMA130	IBM z/OSMF Core Functions
ZMAZOS	HSMA131	IBM z/OSMF ISPF
ZMAZOS	HSMA132	IBM z/OSMF Resource Monitoring

Figure 3 (Page 2 of 2). PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
ZMAZOS	HSMA133	IBM z/OSMF WLM
ZMAZOS	HSMA134	IBM z/OSMF Software Deployment
ZMAZOS	HSMA135	IBM z/OSMF Incident Log
ZMAZOS	HSMA136	IBM z/OSMF Capacity Provisioning
ZMAZOS	HSMA13A	IBM z/OSMF Configuration Assistant
ZMAZOS	HSMA13F	IBM z/OSMF DASD Management
WASOEMZOS700	HBBN700	IBM WebSphere Application Server OEM Edition for z/OS V7.0.0

### 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 4 identifies the component IDs (COMPID) for z/OS Management Facility.

Figure 4. Component IDs

FMID	COMPID	Component Name	RETAIN® Release
HSMA130	5655S28SM	z/OSMF Core Functions	130
HSMA130	5655S28RJ	z/OS jobs REST interface	130
HSMA131	5655S2801	z/OSMF ISPF	131
HSMA132	5655S2802	z/OSMF Resource Monitoring	132
HSMA133	5655S2803	z/OSMF WLM	133
HSMA134	5655S2804	z/OSMF Software Deployment	134
HSMA135	5655S2805	z/OSMF Incident Log	135
HSMA136	5655S2806	z/OSMF Capacity Provisioning	136
HSMA13A	5655S28CA	z/OSMF Configuration Assistant	13A
HSMA13F	5655S28DF	z/OSMF DASD Management	13F
HBBN700	5655I3512	WebSphere App. Srvr. OEM Edition for z/OS V7.0.0	700

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## 4.0 Program and Service Level Information

This section identifies the program and relevant service levels of z/OS Management Facility. 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 z/OS Management Facility have been incorporated into this release. They are listed by FMID.

- FMID HSMA130:

PK86302 PK93289 PK97274 PM09519 PM13001 PM18164 PM21357  
PM22610 PM23389 PM23395 PM24467 PM25201 PM25201 PM27082  
PM27448 PM27450 PM29863

- FMID HSMA132:

No APARs have been incorporated at this time.

- FMID HSMA133:

PM22173 PM22841 PM28675

- FMID HSMA135:

PK86302 PK93289 PK97274 PM09519

- FMID HSMA13A:

PK86302 PK93289 PK97274 PM09519

- FMID HBBN700:

No APARs have been incorporated at this time.

The following FMIDs of z/OS Management Facility have no APAR fixes incorporated because they are new FMIDs for this release: HSMA131, HSMA134, HSMA136, HSMA13F.

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### 4.2 Service Level Information

PTFs containing APAR fixes against this release of z/OS Management Facility have been incorporated into this product tape. For a list of included PTFs, examine the ++VER statement in the product's SMPMCS.



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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating z/OS Management Facility. 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 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 that is required to install z/OS Management Facility.

#### 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 5. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in this product's shipment?
5694-A01	z/OS	V01.11.00 or later	N/A	No
5655-G44	IBM SMP/E for z/OS	V03.05.00 or later	N/A	No

**Notes:**

1. z/OS UNIX System Services must be up in full function mode on your driving system.
2. Before installing z/OS Management Facility, you must ensure that the target system's file system is available (OMVS active and the target file systems mounted) for processing.
3. An SMP/E utility entry for the binder is required. You can specify any of these program names in the UTILITY entry: IEWLINK, HEWL, LINKEDIT, or HEWLH096. (The linkage editor which uses the names HEWLKED, HEWLF064, HEWLF440, and IEWLF128 cannot be used.)
4. The following installation job, as well as the SMP/E APPLY job, should be run under a user ID with UID(0), or with a user ID with READ access to the BPX.SUPERUSER resource in the RACF® FACILITY class. This installation user ID must also have READ access to the FACILITY class resources BPX.FILEATTR.PROGCTL, BPX.FILEATTR.APF, and BPX.FILEATTR.SHARELIB.
  - For z/OS Management Facility HSMA130
    - IZUIHFHS or IZUISZFS
    - IZUISMKD
  - For WebSphere Application Server OEM Edition for z/OS HBBN700
    - BBN7SHFS or BBN7SZFS
    - BBN7ISMD

**Note:** Installation might require migration to a new z/OS release to be service supported. For the end of service dates for z/OS, see the following web site:  
[http://www.ibm.com/software/support/lifecycle/index\\_z.html](http://www.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 that is required to install and use z/OS Management Facility.

## 5.2.1 Machine Requirements

Ensure that your target system has the following:

- Available CPU resource equivalent to a processor with a processor capacity index (PCI) of at least 120.
- Two gigabytes (2 GB) of central storage. This amount is in addition to your existing storage allocation for other applications running in the same z/OS system.

When calculating available CPU resource, observe the following considerations. If your processor has multiple partitions, you should determine the percent of the machine available to the partition running z/OS Management Facility. If you are using dedicated CPUs in your LPAR, compute the PCI as a percent, based on the number of dedicated CPs relative to total CPs. If you are using shared CPs, this calculation can be accomplished by adding the aggregate LPAR weights of all active partitions and computing the percent of this total represented by the LPAR weight of the target partition. Remember to subtract resources in use by other applications. If your configuration includes a System z Application Assist Processor (zAAP), include the available zAAP CPU time in your calculation.

For help with determining the PCI rating of your processor or processor LPAR, see *Large Systems Performance Reference (LSPR)*, SC28-1187, which is available on the IBM ResourceLink web site: <https://www.ibm.com/servers/resourcelink>.

## 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.

z/OS Management Facility 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.

z/OS Management Facility 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 6. Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
5694-A01	z/OS V1.13.0 or later
5655-S28	WebSphere Application Server OEM Edition for z/OS V7.0 (service level 7.0.0.17)

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.

z/OS Management Facility 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.

Figure 7. Target System Toleration/Coexistence Requisites

Program Number	Product Name and Minimum VRM/Service Level
5694-A01	z/OS V1.11.0 APAR OA32285/PTF UA55013 when running in a mixed sysplex
5655-S28	z/OS Management Facility V1.12.0 APAR PM27450/PTF UK65997 and PM32108/PTF UK66066
5655-S28	z/OS Management Facility V1.11.0 APAR PM27448/PTF UK65987

**5.2.2.4 Incompatibility (Negative) Requisites:** Negative requisites identify products that must *not* be installed on the same system as this product.

z/OS Management Facility has no negative requisites.

## 5.2.3 DASD Storage Requirements

z/OS Management Facility libraries can reside on all supported DASD types.

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

Figure 8 (Page 1 of 2). Total DASD Space Required by z/OS Management Facility

Library Type	Total Space Required in 3390 Trks
Target	15



<i>Figure 8 (Page 2 of 2). Total DASD Space Required by z/OS Management Facility</i>	
<b>Library Type</b>	<b>Total Space Required in 3390 Trks</b>
Distribution	2215
File System	2200

<i>Figure 9. Total DASD Space Required by WebSphere Application Server OEM Edition for z/OS</i>	
<b>Library Type</b>	<b>Total Space Required in 3390 Trks</b>
Target	15
Distribution	23725
HFS or zFS	39000

**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 s 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 6.1.5, “Allocate SMP/E Target and Distribution Libraries” on page 19.

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 LNKLIST.
- These data sets are not required to be APF-authorized.

The following figures describe the target and distribution libraries and file system paths required to install z/OS Management Facility. The storage requirements of z/OS Management Facility 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 10. Storage Requirements for z/OS Management Facility Target Libraries*

<b>Library DDNAME</b>	<b>Member Type</b>	<b>Target Volume</b>	<b>T Y P E</b>	<b>O R G</b>	<b>R E C O R D S</b>	<b>L R E C L S</b>	<b>No. of 3390 Trks</b>	<b>No. of DIR Blks</b>
SBBN7JCL	SAMP	TVOL2	U	PDS	FB	80	5	5
SBBN7MSG	MSG	TVOL2	U	PDS	VB	259	10	10
SIZUJCL	SAMP	TVOL2	U	PDS	FB	80	15	5

Figure 11. z/OS Management Facility File System Paths

DDNAME	T Y P E	Path Name
SBBN7COD	N	/usr/lpp/zWebSphereOEM/V7R0/IBM
SIZUFSC	N	/usr/lpp/zosmf/V1R13/IBM

Figure 12. Storage Requirements for z/OS Management Facility 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
ABBN7JCL	U	PDS	FB	80	5	5
ABBN7HF1	U	PDSE	VB	259	15000	--
ABBN7HF2	U	PDSE	VB	259	12000	--
ABBN7HF3	U	PDSE	VB	259	12000	--
ABBN7MSG	U	PDS	VB	259	10	10
AIZUJCL	U	PDS	FB	80	15	5
AIZUFS	U	PDSE	VB	259	2200	--

### 5.3 FMIDs Deleted

Installing z/OS Management Facility 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 z/OS Management Facility 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

z/OS Management Facility has no special considerations for the target system.



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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 z/OS Management Facility.

Note the following:

- If you want to install z/OS Management Facility 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.
- All of the z/OS Management Facility FMIDs must be installed prior to starting the product configuration process.

---

### 6.1 Installing z/OS Management Facility

All installation steps must be run from a user ID that is defined to z/OS UNIX System Services, and has the following attributes:

- UID(0) or READ access or higher to BPX.SUPERUSER in the FACILITY class.
- READ access or higher to BPX.FILEATTR.PROGCTL, BPX.FILEATTR.APF, and BPX.FILEATTR.SHARELIB in the FACILITY classes.

#### 6.1.1 SMP/E Considerations for Installing z/OS Management Facility

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install z/OS Management Facility. The SMP/E dialogs can be used to accomplish the SMP/E installation steps.

#### 6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 13. 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 13. SMP/E Options Subentry Values

Subentry	Value	Comment
DSSPACE	2500,1200,2600	IBM recommends using your existing (z/OS V1.13.0) target system CSI's DSSPACE value.
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 z/OS Management Facility:

Figure 14. Sample Installation Jobs for z/OS Management Facility

Job Name	Job Type	Description	RELFILE
IZUISALC	ALLOCATE	Sample job to allocate target and distribution libraries	prefix.HSMA130.F2
IZUISDDD	DDDEF	Sample job to define SMP/E DDDEFs	prefix.HSMA130.F2
IZUIHFS	HFS ALLOCATE	Sample job to define and mount the HFS (Calls supplied IZUMNTFS)	prefix.HSMA130.F2
IZUISZFS	zFS ALLOCATE	Sample job to define and mount the zFS (Calls supplied IZUMNTFS)	prefix.HSMA130.F2
IZUISMKD	MKDIR	Sample job to invoke the supplied IZUMKDIR EXEC to allocate HFS or zFS paths	prefix.HSMA130.F2

The following sample installation jobs are provided as part of the product to help you install WebSphere Application Server OEM Edition for z/OS. Use these jobs if WebSphere Application Server OEM Edition for z/OS is not already installed on your system.

Figure 15. Sample Installation Jobs for WebSphere Application Server OEM Edition for z/OS

Job Name	Job Type	Description	RELFILE
BBN7ALOC	ALLOCATE	Sample job to allocate target and distribution libraries	prefix.HBBN700.F5
BBN7DDEF	DDDEF	Sample job to define SMP/E DDDEFs	prefix.HBBN700.F5
BBN7IHFS	HFS ALLOCATE	Sample job to define and mount the HFS (Calls supplied BBN7MTFS)	prefix.HBBN700.F5
BBN7IZFS	zFS ALLOCATE	Sample job to define and mount the ZFS (Calls supplied BBN7MTFS)	prefix.HBBN700.F5
BBN7ISMD	MKDIR	Sample job to invoke the supplied BBN7MKDR EXEC to allocate HFS or zFS paths	prefix.HBBN700.F5

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the refiles to a work data set for editing and submission. See Figure 14 to find the appropriate refile data set for the z/OS Management Facility sample jobs. See Figure 15 to find the appropriate refile data set for the WebSphere Application Server OEM Edition for z/OS sample jobs.

**Note:** 'prefix' is the high-level qualifier specified as the DSPREFIX value in the SMPTLIB DDDEF or the OPTIONS entry of the global zone.

## 6.1.4 Perform SMP/E RECEIVE

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

**Expected Return Codes and Messages: RC=0**

## 6.1.5 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job IZUISALC to allocate the SMP/E target and distribution libraries for z/OS Management Facility.

If WebSphere Application Server OEM Edition for z/OS is not already installed on your system, edit and submit sample job BBN7ALOC to allocate the SMP/E target and distribution libraries for WebSphere Application Server OEM Edition for z/OS.

For more information, see the instructions in the sample jobs.

**Expected Return Codes and Messages: RC=0**

## 6.1.6 Define HFS or zFS Data Set

IBM recommends installing z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS into a new HFS or zFS for each.

Edit and submit either IZUIHFS or IZUISZFS to define the HFS or zFS for z/OS Management Facility. These sample jobs invoke the IZUMNTFS exec to define the default mountpoint and mount the newly allocated HFS or zFS on the driving system for product installation. For z/OS Management Facility, the default mountpoint is: `/-PathPrefix-/usr/lpp/zosmf/V1R13` where `/-PathPrefix-` is the file system path prefix such as `/SERVICE`.

For more information, see the instructions in the sample jobs.

If WebSphere Application Server OEM Edition for z/OS is not already installed on your system, edit and submit either BBN7IHFS or BBN7IZFS to define the HFS or zFS for WebSphere Application Server OEM Edition for z/OS. These sample jobs invoke the BBN7MTFS exec to define the default mountpoint and

mount the newly allocated HFS or zFS on the driving system for product installation. For WebSphere Application Server OEM Edition for z/OS, the default mountpoint is: `/-PathPrefix-/usr/lpp/zWebSphereOEM/V7R0` where `/-PathPrefix-` is the file system path prefix such as `/SERVICE`.

For more information, see the instructions in the sample jobs.

**Expected Return Codes and Messages: RC=0**

## 6.1.7 Allocate File system Paths

Before running the sample job IZUISMKD, ensure that OMVS is active on the driving system, and that the file system data set of the target system is mounted to the driving system. The sample job IZUISMKD (and sample job BBN7ISMD, if used) create paths in this file system. If you install z/OS Management Facility or WebSphere Application Server OEM Edition for z/OS into a zFS file system, zFS must be active on the driving system.

Edit and submit sample job IZUISMKD to allocate the file system paths for z/OS Management Facility. If WebSphere Application Server OEM Edition for z/OS is not already installed on your system, edit and submit sample job BBN7ISMD to allocate the file system paths for WebSphere Application Server OEM Edition for z/OS.

For more information, see the instructions in the sample jobs.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. Specify the UNMOUNT parameter on the MOUNT statement to indicate that the file system should be unmounted in the event of a system shutdown. This action can be helpful if an IPL occurs before the installation is complete.

**Expected Return Codes and Messages: RC=0**

## 6.1.8 Create DDDEF Entries

Edit and submit sample job IZUISDDD to create DDDEF entries for the SMP/E target and distribution libraries for z/OS Management Facility.

If WebSphere Application Server OEM Edition for z/OS is not already installed on your system, edit and submit sample job BBN7DDEF to create DDDEF entries for the SMP/E target and distribution libraries for WebSphere Application Server OEM Edition for z/OS.

For more information, see the instructions in the sample jobs.

**Expected Return Codes and Messages: RC=0**



## 6.1.9 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit the sample job shown in Figure 16 on page 22 to perform an SMP/E APPLY CHECK for z/OS Management Facility.

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/holddata/390holddata.html>. Install the FMIDs regardless of the status of unresolved HIPERs. However, do not 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).

The following procedure is suggested 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 have received the latest HOLDDATA, add the FIXCAT operand to the APPLY command as shown below.

- b. SMP/E V3.5 or higher:

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

- c. 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 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 be 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.

Figure 16 shows a sample job that you can use to perform an SMP/E APPLY CHECK for z/OS Management Facility.

```
//APPLY JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(targetzone).
  APPLY CHECK XZREQ
  FORFMID (HSMA130,HSMA131,HSMA132,HSMA133,HSMA134,HSMA135,
  HSMA136,HSMA13A,HSMA13F,HBBN700)
  SELECT (HSMA130,HSMA131,HSMA132,HSMA133,HSMA134,HSMA135,
  HSMA136,HSMA13A,HSMA13F,HBBN700) /*see note 4 below */
  GROUPEXTEND(NOAPARS,NOUSERMODS)
  SOURCEID(ZOSV1R13,RSU*)
  FIXCAT(IBM.ProductInstall-RequiredService)
  BYPASS(HOLDSYSTEM,
  HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*
```

Figure 16. Sample SMP/E APPLY Job

#### Required Updates

1. Update the job parameters.
2. Replace csiname on the SMPCSI DD statement with your CSI name.
3. Replace targetzone with your target zone name.
4. If WebSphere Application Server OEM Edition for z/OS was previously installed on your system, remove HBBN700 from the SELECT parameter in this sample job.

**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.

The XZREQ operand is required only when cross-zone processing is required. If this operand is specified when there is no zone group set up, the following messages are issued; you can ignore them:

```
GIM50810W THE XZREQ OPERAND WAS SPECIFIED ON THE APPLY COMMAND BUT
SINCE NO ZONES WERE APPLICABLE FOR CROSS-ZONE REQUISITE CHECKING,
THE XZREQ OPERAND WILL BE IGNORED.
```

```
GIM20501I APPLY PROCESSING IS COMPLETE.
THE HIGHEST RETURN CODE WAS 04.
```

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

### 6.1.10 Perform SMP/E ACCEPT

Edit and submit sample job shown in Figure 17 on page 24 to perform an SMP/E ACCEPT CHECK FOR z/OS Management Facility.

For more information, see the instructions in the sample job.

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.

Figure 17 on page 24 shows a sample job that you can use to perform an SMP/E ACCEPT for z/OS Management Facility.

```

//ACCEPT JOB <job parameters>
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(dlibzone).
  ACCEPT CHECK XZREQ
  FORFMID (HSMA130,HSMA131,HSMA132,HSMA133,HSMA134,HSMA135,
  HSMA136,HSMA13A,HSMA13F,HBBN700)
  SELECT (HSMA130,HSMA131,HSMA132,HSMA133,HSMA134,HSMA135,
  HSMA136,HSMA13A,HSMA13F,HBBN700) /* see note 4 below */
  GROUPEXTEND(NOAPARS,NOUSERMODS)
  SOURCEID(ZOSV1R13,RSU*)
  FIXCAT(IBM.ProductInstall-RequiredService)
  BYPASS(HOLDSYSTEM,HOLDUSER,HOLDCLASS (UCLREL,ERREL,HIPER)) .
/*

```

Figure 17. Sample SMP/E ACCEPT Job

#### Required Updates

1. Update the job parameters.
2. Replace csiname on the SMPCSI DD statement with your CSI name.
3. Replace dlibzone with your distribution zone name.
4. If WebSphere Application Server OEM Edition for z/OS was previously installed on your system, remove HBBN700 from the SELECT parameter in this sample job.

**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: RC=0

The XZREQ operand is required only when cross-zone processing is required. If this operand is specified when there is no zone group set up, the following messages are issued; you can ignore them:

```
GIM50810W THE XZREQ OPERAND WAS SPECIFIED ON THE APPLY COMMAND BUT
SINCE NO ZONES WERE APPLICABLE FOR CROSS-ZONE REQUISITE CHECKING,
THE XZREQ OPERAND WILL BE IGNORED.
```

```
GIM20501I APPLY PROCESSING IS COMPLETE.
THE HIGHEST RETURN CODE WAS 04.
```

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will link-edit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the

ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

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

### **6.1.11 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 z/OS Management Facility, 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 z/OS Management Facility**

Ensure that the z/OS Management Facility product file system is mounted in read-only mode during execution.

Before you can activate the z/OS Management Facility product, you must configure and activate an instance of WebSphere Application Server OEM Edition for z/OS on your z/OS system. For a description of the steps to follow, see *IBM WebSphere Application Server OEM Edition for z/OS Configuration Guide, Version 7.0*, GA32-0631.

To activate z/OS Management Facility, you must configure this product after installing it as described in this program directory. For information about configuring z/OS Management Facility, see *IBM z/OS Management Facility Configuration Guide*, SA38-0652.

These documents are available at <http://www.ibm.com/shop/publications/order>.



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Readability and organization of program directory tasks	1	2	3	4	5	N
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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?

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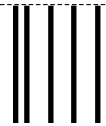


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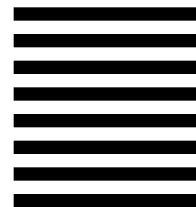
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