



Program Directory for z/OS Management Facility

V1.12.0

Program Number 5655-S28

FMIDs HSMA120, HSMA122, HSMA123, HSMA125, HSMA12A, HBBN700

for Use with
z/OS V1.12.0 or higher

Document Date: September, 2010

GI11-2886-01

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 the system programmer responsible for program installation and maintenance. It contains information concerning 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.

This includes IBM WebSphere® Application Server OEM Edition for z/OS, which will be referred to 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 and WebSphere Application Server OEM Edition for z/OS.
- 3.0, “Program Support” on page 5 describes the IBM support available for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) incorporated into z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations required for installing and using z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.
- 6.0, “Installation Instructions” on page 17 provides detailed installation instructions for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS. 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 and WebSphere Application Server OEM Edition for z/OS, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that were supplied with this program in softcopy form as well as this Program Directory and 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). This package also includes WebSphere Application Server OEM Edition for z/OS. The Program Directory is provided in softcopy form on the CBPDO tape which is identical to the hardcopy form provided with your order. All service and HOLDDATA for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS are included on the CBPDO tape.

It is not necessary to install another copy of IBM 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

IBM WebSphere Application Server OEM Edition for z/OS has the minimum required service, which is shown in Figure 6 on page 11.

Do not use this Program Directory if you are installing z/OS Management Facility or WebSphere Application Server OEM Edition for z/OS with a SystemPac® or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. That documentation might refer you to specific sections of this Program Directory as required.

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. 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/>

1.2 z/OS Management Facility FMIDs

z/OS Management Facility consists of the following FMIDs:

- HSMA120
- HSMA122
- HSMA123
- HSMA125
- HSMA12A
- HBBN700

2.0 Program Materials

An IBM program is identified by a program number. The program number for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS 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.

2.1 Basic Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 17 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS can be found in the *CBPDO Memo To Users Extension*.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.

2.3 Program Publications

The following sections identify the basic and optional publications for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.

2.3.1 Basic Program Publications

The basic package includes a copy of the License Information Document (GC52-1263-01).

The basic publications and other information about z/OS Management Facility and IBM WebSphere Application Server OEM Edition for z/OS are available electronically at <http://www.ibm.com/shop/publications/order>.

2.3.2 Optional Program Publications

Figure 1 on page 4 identifies the optional unlicensed or licensed publications that are not available in hardcopy form, but are available through the internet or other media for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.

| <i>Figure 1. Optional Material: Other Optional Publications</i> | | |
|--|--------------------|---|
| Publication Title | Form Number | How Available |
| IBM z/OS Management Facility Configuration Guide | SA38-0652 | http://publibz.boulder.ibm.com/epubs/pdf/izuz3110.pdf |
| IBM WebSphere Application Server OEM Edition for z/OS Configuration Guide, Version 7.0 | GA32-0631 | http://publibz.boulder.ibm.com/epubs/pdf/bbncfg80.pdf |

2.4 Program Source Materials

No program source materials or viewable program listings are provided for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.

2.5 Publications Useful During Installation

The publications listed in Figure 2 may be useful during the installation of z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at:
<http://www.ibm.com/shop/publications/order>.

| <i>Figure 2. Publications Useful During Installation</i> | |
|--|--------------------|
| Publication Title | Form Number |
| <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 |

3.0 Program Support

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

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS, it is VERY IMPORTANT that you review 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 this package's installation. This includes software PSP information (ZMAZOS) that contains HIPER, and/or required PTFs against the base release.

While there can be overlap between SW, HW and functional PSP buckets, reviewing all that apply to this package will ensure that you identify any known service required for your installation of this package.

If you obtained z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS as part of a CBPDO, there is HOLDDATA included on the PDO.

To obtain the current PSP (PSP Bucket), use one of the following methods:

- Contact the IBM Support Center.
- Use S/390® SoftwareXcel (IBMLink).
- Visit <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 z/OS Management Facility are:

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

| UPGRADE | SUBSET | Description |
|---------|---------|-----------------|
| ZMAZOS | HSMA120 | IBM z/OSMF Core |
| ZMAZOS | HSMA122 | IBM z/OSMF RMF |
| ZMAZOS | HSMA123 | IBM z/OSMF WLM |

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

| UPGRADE | SUBSET | Description |
|----------------|---------------|--|
| ZMAZOS | HSMA125 | IBM z/OSMF Incident Log |
| ZMAZOS | HSMA12A | IBM z/OSMF Config Assist |
| WASOEMZOS700 | HBBN700 | IBM WebSphere Application Server OEM Edition for z/OS V7.0.0 |

3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will advise how you should submit any needed information or documentation.

Figure 4 identifies the component IDs (COMPID) for z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.

Figure 4. Component IDs

| FMID | COMPID | Component Name | RETAIN Release |
|-------------|---------------|-----------------------|-----------------------|
| HSMA120 | 5655S28SM | z/OSMF Core | 120 |
| HSMA122 | 5655S2802 | z/OSMF RMF | 122 |
| HSMA123 | 5655S2803 | z/OSMF WLM | 123 |
| HSMA125 | 5655S2805 | z/OSMF Incident Log | 125 |
| HSMA12A | 5655S28CA | CONFIG ASSIST | 12A |
| HBBN700 | 5655I3512 | WEBS APP SRV OEM | 700 |

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs incorporated into the program.

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 HSMA120:
 - PK86302
 - PK93289
 - PK97274
 - PM09519
- FMID HSMA125:
 - PK86302
 - PK93289
 - PK97274
 - PM09519
- FMID HSMA12A:
 - PK86302
 - PK93289
 - PK97274
 - PM09519

The following FMIDs of z/OS Management Facility have no APAR fixes incorporated into this release: HSMA122, HSMA123, HBBN700.

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.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS. The following terminology is used:

- *Driving system*: the system used to install the program.

The program may have specific operating system or product level requirements for utilizing processes such as binder or assembly utilities during the install.

- *Target system*: the system on which the program is intended to run.

The program may have specific product level requirements such as needing access to another product's library for link-edits that may directly affect the elements during the install or for its basic or enhanced operation. These requirements may be mandatory or optional.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should 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.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.
- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.

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 and Minimum VRM/Service Level |
|----------------------------------|--|
| Any one of the following: | |
| 5694-A01 | z/OS V1.10.0 or later |
| 5655-G44 | IBM SMP/E for z/OS V3.05.0 or later |

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 and WebSphere Application Server OEM Edition for z/OS, 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 HSMA120
 - IZUIHFHS or IZUISZFS
 - IZUISMKD
 - For WebSphere Application Server OEM Edition for z/OS HBBN700
 - BBN7SHFS or BBN7SZFS
 - BBN7ISMD

5.2 Target System Requirements

This section describes the environment of the target system required to install and use z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.

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: An installation requisite is defined as a product that is required and **must** be present or one that is not required but **should** be present on the system for the successful installation of this product.

A mandatory installation requisite identifies products that are required, without exception, or this product **will not install** on your system. This includes products specified as PREs or REQs.

z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS have no mandatory installation requisites.

A conditional installation requisite identifies products that are **not** required for successful install but may resolve such things as certain warning messages at installation time. They include products that are specified as IF REQs.

z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS have no conditional installation requisites.

5.2.2.2 Operational Requisites: An operational requisite is defined as a product that is required and **must** be present or a product that is not required but **should** be present on the system in order for this product to operate all or some of its functions.

A mandatory operational requisite identifies products that are required, without exception, or this product **will not operate** its basic function unless the requisite is met. This includes products specified as PREs or REQs.

| <i>Figure 6. Mandatory Operational Requisites</i> | |
|---|---|
| Program Number | Product Name and Minimum VRM/Service Level |
| 5694-A01 | z/OS V1.12.0 or later |
| 5655-S28 | WebSphere Application Server OEM Edition for z/OS V7.0 (service level 7.0.0.9), with APARs PM13020 - PM13058 (PTFs UK56521 - UK56529, UK56534, UK56536, UK56538, UK56540 - UK56566) which are included in this package. |

A conditional operational requisite identifies products that are **not required** for the basic function but are needed at run time for this product to utilize specific functions. They may include products specified as IF REQs.

z/OS Management Facility has no conditional operational requisites.

5.2.2.3 Toleration/Coexistence Requisites: A toleration/coexistence requisite is defined as a product that must be present on a sharing system. 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 at different time intervals.

For common event adapter (CEA) toleration support, ensure that APAR OA32285 is installed on the system with z/OS Management Facility V1.12.0.

If you require the capability to fall back from z/OS Management Facility V1.12.0 to a lower level system (z/OS Management Facility V1.11.0 on a z/OS V1.10 or later system), while retaining the use of the data repository from z/OS Management Facility V1.12.0, you require APAR PM09519 on the system with z/OS Management Facility V1.11.0.

5.2.2.4 Incompatibility (Negative) Requisites: A negative requisite identifies products that must *not* be installed on the same system as this product.

z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS have no negative requisites.

5.2.3 DASD Storage Requirements

z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS. libraries can reside on all supported DASD types.

Figure 7 and Figure 8 lists the total space required for each type of library.

| <i>Figure 7. Total DASD Space Required by z/OS Management Facility</i> | |
|--|--|
| Library Type | Total Space Required in 3390 Trks |
| Target | 4 |
| Distribution | 1600 |
| HFS or zFS | 1600 |

| <i>Figure 8. Total DASD Space Required by WebSphere Application Server OEM Edition for z/OS</i> | |
|---|--|
| Library Type | Total Space Required in 3390 Trks |
| Target | 70 |
| Distribution | 41005 |
| HFS or zFS | 36000 |

Notes:

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

2. Abbreviations used for Member Type are:

MSG Message

SAMP Sample

3. Abbreviations used for Target Volume are:

T1 TVOL1

T2 TVOL2

4. Abbreviations used for the data set type are:

U Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or Program Directories) need to be referenced for the data set size.

S Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to 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 others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set 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 one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not 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 on the names and sizes of the required data sets, please refer to 6.1.5, "Allocate SMP/E Target and Distribution Libraries" on page 19.

5. Abbreviations used for the HFS or zFS Path type are:

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.

6. 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.

7. Abbreviations used for the **NOTE** column are:

- 1 New library introduced by IBM WebSphere Application Server OEM Edition for z/OS V7.0.0.
- 2 New library introduced in z/OS Management Facility V1.12.0.

The following figures describe the target and distribution libraries and HFS or zFS 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 9. Storage Required for Target Libraries for z/OS Management Facility V1.12.0.

| Library DDNAME | Mem Type | Tar Vol | 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 | N O T E |
|-------------------|-------------|------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|------------------|
| SBBN7JCL | Samp | T2 | U | PDS | FB | 80 | 5 | 5 | 1 |
| SBBN7MSG | MSG | T2 | U | PDS | VB | 259 | 10 | 10 | 1 |
| SIZUJCL | Samp | T2 | U | PDS | FB | 80 | 8 | 5 | 2 |

Figure 10. HFS or zFS Paths for z/OS Management Facility V1.12.0.

| DDNAME | TYPE | Path Name | NOTE |
|----------|------|---------------------------------|------|
| SBBN7COD | N | /usr/lpp/zWebSphereOEM/V7R0/IBM | 1 |
| SIZUFSC | N | /usr/lpp/zosmf/V1R12/IBM | 2 |

Figure 11 (Page 1 of 2). Storage Required for Distribution Libraries for z/OS Management Facility V1.12.0.

| 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 | NOTE |
|-------------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|------|
| ABBN7JCL | U | PDS | FB | 80 | 5 | 5 | 1 |
| ABBN7HF1 | U | PDSE | VB | 259 | 15000 | -- | 1 |
| ABBN7HF2 | U | PDSE | VB | 259 | 12000 | -- | 1 |
| ABBN7HF3 | U | PDSE | VB | 259 | 12000 | -- | 1 |
| ABBN7MSG | U | PDS | VB | 259 | 10 | 10 | 1 |
| AIZUJCL | U | PDS | FB | 80 | 8 | 5 | 2 |

Figure 11 (Page 2 of 2). Storage Required for Distribution Libraries for z/OS Management Facility V1.12.0.

| 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 | NOTE |
|-------------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|------|
| AIZUFS | U | PDSE | VB | 259 | 1600 | -- | 2 |

5.3 FMIDs Deleted

Installing z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS into separate SMP/E target and distribution zones.

Note: These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

5.4 Special Considerations

z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS have no special considerations for the target system.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS.

Please note the following:

- It is not recommended to install z/OS Management Facility and/or WebSphere Application Server OEM Edition for z/OS into its own SMP/E environment, however, if you want to, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.
- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.
- All of the z/OSMF FMIDs must be installed prior to starting the product configuration process.

6.1 Installing z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS

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 and WebSphere Application Server OEM Edition for z/OS

These releases of z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS are installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 12. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

Figure 12. SMP/E Options Subentry Values

| SUB-ENTRY | Value | Comment |
|-----------|----------------|--|
| DSSPACE | 2500,1200,2600 | IBM recommends using your existing (z/OS V1.12.0) 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 13. 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.HSMA120.F2 |
| IZUISDDD | DDDEF | Sample job to define SMP/E DDDEFs | prefix.HSMA120.F2 |
| IZUIHFS | HFS ALLOCATE | Sample job to define and mount the HFS (Calls supplied IZUMNTFS) | prefix.HSMA120.F2 |
| IZUISZFS | zFS ALLOCATE | Sample job to define and mount the zFS (Calls supplied IZUMNTFS) | prefix.HSMA120.F2 |
| IZUISMKD | MKDIR | Sample job to invoke the supplied IZUMKDIR EXEC to allocate HFS or zFS paths | prefix.HSMA120.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 14. 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 13 to find the appropriate refile data set for z/OS Management Facility sample jobs. See Figure 14 to find the appropriate refile data set for 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

Having obtained z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS as part of a CBPDO, use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the z/OS Management Facility FMIDs as well as any service, HOLDDATA, included on the CBPDO tape. For more information, refer to the documentation included with 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.

See the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.6 Define HFS or zFS Data Set

IBM suggests to install both z/OS Management Facility and WebSphere Application Server OEM Edition for z/OS into their own new HFS or zFS file system.

Edit and submit sample job either IZUIHFS or IZUISZFS to define HFS or zFS for z/OS Management Facility. Both jobs will invoke 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/V1R12` where `/-PathPrefix-` is the file system path prefix such as `/SERVICE`. See the instructions in the sample jobs for more information.

If WebSphere Application Server OEM Edition for z/OS is not already installed on your system, edit and submit sample job either BBN7IHFS or BBN7IZFS to define HFS or zFS for WebSphere Application Server OEM Edition for z/OS. Both jobs will invoke 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`. See the instructions in the sample jobs for more information.

Expected Return Codes and Messages: RC=0

6.1.7 Allocate HFS or zFS Paths

The target system HFS or zFS data set must be mounted on the driving system when running the sample IZUISMKD or BBN7ISMD jobs which will create paths in the HFS or zFS.

Before running the sample job to create the paths in the file system, you must ensure that OMVS is active on the driving system, and that the target system's HFS or zFS file system is mounted to the driving system. zFS must be active on the driving system if you are installing z/OS Management Facility or WebSphere Application Server OEM Edition for z/OS into a zFS file system.

Edit and submit sample job IZUISMKD to allocate the HFS or zFS 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 HFS or zFS paths for WebSphere Application Server OEM Edition for z/OS. See the instructions in the sample job for more information.

If you create a new HFS or zFS for this product, you should consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This may 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.

See the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.9 Perform SMP/E APPLY

1. Ensure that you have the latest Enhanced HOLDDATA, then edit and submit the sample job shown in Figure 15 on page 22 to perform an SMP/E APPLY CHECK for z/OS Management Facility. For WebSphere Application Server OEM Edition for z/OS, edit and submit the sample job shown in Figure 16 on page 23 to perform an SMP/E APPLY CHECK for WebSphere Application Server OEM Edition for z/OS.

Enhanced HOLDDATA introduces ERROR HOLDS against FMIDs for HIPER APARs. Prior to installing, you should ensure you have the latest Enhanced HOLDDATA (available at URL <http://service.software.ibm.com/holddata/390holddata.html>). The FMID(s) should be installed regardless of the status of unresolved HIPERs, however, the software should not be deployed until the unresolved HIPERs have been analyzed to determine applicability.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

There are two methods to complete an FMID installation where ++HOLDS for HIPERs exist for the FMID(s) being installed:

- a. To ensure that all recommended and critical service is installed with the FMID(s), add the SOURCEIDs of PRP, HIPER, and RSU* to the APPLY command. There may be PE or HIPER APARs that do not have resolving PTFs available yet. You need to analyze the symptom flags to determine if you want to BYPASS the specific ERROR HOLDS and continue the FMID installation.

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(PRP,HIPER,RSU*,...)
GROUPEXTEND .
```

This method requires more initial research, but will provide resolution for all HIPERs that have fixes available and are not in a PE chain. There may still be unresolved PEs or HIPERs that will require the use of BYPASS.

- b. To install the FMID(s) as it would have been installed prior to Enhanced HOLDDATA, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. This will allow the FMID to be installed even though there are HIPER ERROR HOLDS against it. Note that not all ERROR HOLDS were bypassed, only the HIPER ERROR HOLDS. After the FMID(s) are installed, the SMP/E REPORT ERRSYSMODS command should be run to identify any 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 bypass any HOLDs during the installation of the FMID(s) because fixing PTFs were not yet available you can use the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink to be notified when the fixing PTF is available.

2. After you have taken any actions indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Figure 15 shows a sample job that you can use to perform an SMP/E APPLY CHECK for z/OS Management Facility.

```
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(targetzone)
  APPLY CHECK
  FORFMID (HSMA120,HSMA122,HSMA123,HSMA125,HSMA12A)
  SELECT (HSMA120,HSMA122,HSMA123,HSMA125,HSMA12A)
  GROUPEXTEND(NOAPARS,NOUSERMODS)
  BYPASS(HOLDSYSTEM,
  HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*
```

Figure 15. 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.

Note: The GROUPEXTEND operand indicates that SMP/E apply 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.

Figure 16 on page 23 shows a sample job that you can use to perform an SMP/E APPLY CHECK for WebSphere Application Server OEM Edition for z/OS. Run this job only if your copy of WebSphere Application Server OEM Edition for z/OS does not already include service level 7.0.0.9. Otherwise, you can skip this step.

```

//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(targetzone)
  APPLY CHECK
  FORFMID (HBBN700)
  SELECT (HBBN700)
  GROUPEXTEND(NOAPARS,NOUSERMODS)
  BYPASS(HOLDSYSTEM,
  HOLDUSER,HOLDCLASS(UCLREL,ERREL,HIPER)) .
/*

```

Figure 16. Sample SMP/E APPLY Job

Required Updates

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

Note: The GROUPEXTEND operand indicates that SMP/E apply 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 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. See the instructions in the sample job for more information.

Edit and submit sample job shown in Figure 18 on page 25 to perform an SMP/E ACCEPT CHECK for WebSphere Application Server OEM Edition for z/OS. See 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 following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

Once you have taken any actions indicated by the ACCEPT CHECK, remove the CHECK operand and run the jobs again to perform the ACCEPT.

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

```
//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(dlibzone).
  ACCEPT CHECK FORFMID (HSMA120,HSMA122,HSMA123,HSMA125,HSMA12A)
  SELECT (HSMA120,HSMA122,HSMA123,HSMA125,HSMA12A)
  GROUPEXTEND(NOAPARS,NOUSERMODS)
  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.

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

Expected Return Codes and Messages from ACCEPT CHECK: RC=0

Figure 18 on page 25 shows a sample job that you can use to perform an SMP/E ACCEPT for WebSphere Application Server OEM Edition for z/OS. Run this job only if your copy of WebSphere Application Server OEM Edition for z/OS does not already include service level 7.0.0.9. Otherwise, you can skip this step.

```

//STEP1 EXEC PGM=GIMSMP,REGION=0M,TIME=NOLIMIT
//SMPCSI DD DSN=csiname,DISP=SHR
//SMPCNTL DD *
  SET BOUNDARY(dlibzone).
  ACCEPT CHECK FORFMID (HBBN700)
  SELECT (HBBN700)
  GROUPEXTEND(NOAPARS,NOUSERMODS)
  BYPASS(HOLDSYSTEM,HOLDUSER,HOLDCLASS (UCLREL,ERREL,HIPER)) .
/*

```

Figure 18. Sample SMP/E ACCEPT Job

Required Updates

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

Expected Return Codes and Messages from ACCEPT CHECK: RC=0

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 will identify requisites defined for products that have been installed in separate zones. This command will also create APPLY and ACCEPT commands in the SMPPUNCH data set that you can use to install those cross-zone requisites it identifies.

After you have installed 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 describing all the target and distribution libraries to be reported on.

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

6.2 Activating z/OS Management Facility

If you choose to have the HFS or zFS in which you have installed z/OS Management Facility mounted in read-only mode during execution, then no further tasks are required to accomplish this.

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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Program Directory for IBM z/OS Management Facility, September, 2010

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| Time to install the product | 1 | 2 | 3 | 4 | 5 | N |
| Readability and organization of Program Directory tasks | 1 | 2 | 3 | 4 | 5 | N |
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- No

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

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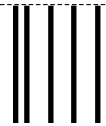
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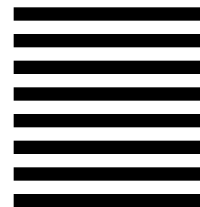
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