



**Program Directory for
WebSphere Extended Deployment
for z/OS V6.0.1**

Version 6 Release 0 Modification 1

Program Number 5655-P28

HEEX601

for Use with
WebSphere Application Server for z/OS V6.0.1

Document Date: January 2006

GI10-0767-00

Note!

Before using this information and the product it supports, be sure to read the general information under Appendix A, "Notices" on page 24.

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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 WebSphere Extended Deployment for z/OS V6.0.1.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for WebSphere Extended Deployment for z/OS V6.0.1.
- 3.0, “Program Support” on page 6 describes the IBM support available for WebSphere Extended Deployment for z/OS V6.0.1.
- 4.0, “Program and Service Level Information” on page 8 lists the PTF (service level) incorporated into WebSphere Extended Deployment for z/OS V6.0.1.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations required for installing and using WebSphere Extended Deployment for z/OS V6.0.1.
- 6.0, “Installation Instructions” on page 18 provides detailed installation instructions for WebSphere Extended Deployment for z/OS V6.0.1. It also describes the procedures for activating the functions of WebSphere Extended Deployment for z/OS V6.0.1, or refers to appropriate publications.

WebSphere Extended Deployment for z/OS V6.0.1 is an assembly of functions that when added to WebSphere Application Server for z/OS V6.0.1, plus the enabling service level, will extend its capabilities and manageability.

This product is shipped alone through CBPDO and as an additional feature to the WebSphere ServerPac. When shipped through CBPDO, it must be installed into an SMP/E environment that already contains WebSphere Application Server for z/OS V6.0.1.

Prerequisite WebSphere Application Server for z/OS V6.0.1 provides the entire runtime environment needed for WebSphere Extended Deployment for z/OS V6.0.1. There are no additional CDs or products shipped with WebSphere Extended Deployment for z/OS V6.0.1.

Before installing WebSphere Extended Deployment for z/OS V6.0.1, read the Memo to Users Extension that is supplied with this program in softcopy form as well as this Program Directory. Consider keeping them for future reference. Section 3.2, “Preventive Service Planning” on page 6 tells you how to find any updates to the information and procedures in this Program Directory.

When WebSphere Extended Deployment for z/OS V6.0.1 is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3, the Program Directory is provided in softcopy form on the CBPDO tape that is identical to the hardcopy form provided with your order. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for WebSphere Extended Deployment for z/OS V6.0.1 are included on the CBPDO tape.

1.1 WebSphere Extended Deployment for z/OS V6.0.1 Description

WebSphere Extended Deployment for z/OS V6.0.1 is a first product of its kind for the mainframe. It offers enhanced quality of service focused exclusively on the Java 2 Enterprise Edition (J2EE) application layer. WebSphere Extended Deployment for z/OS V6.0.1 operates by seamlessly installing into an existing WebSphere Application Server for z/OS V6.0.1 installation. It extends the core function already available, which is easily accessible using the same administrative console as WebSphere Application Server for z/OS V6.0.1. With the J2EE platform as the core foundation for WebSphere Application Server for z/OS V6.0.1, WebSphere Extended Deployment for z/OS V6.0.1 delivers enhanced qualities around:

- Business flexibility - Provides the core capabilities to more efficiently and effectively support Java batch workloads and on-line transaction processing, while also enabling centralized management for heterogeneous IT infrastructure consisting of both WebSphere and non-WebSphere application servers.
- Extended manageability - Offers simpler and improved management of complex system operations with real-time visualization tools, application versioning, and gradual, controlled implementation of autonomic capabilities such as health management. These operations help you reduce the cost and complexity of managing IT resources.
- Dynamic operations - Enables your J2EE application environment to support a focused configuration of WebSphere resources, helping you to increase the speed at which your company can adapt to business change.
- High-performance computing - Optimizes the performance of business critical applications to support near linear scalability for high-end transaction processing, helping you improve customer service levels while also leveraging existing Java skills and resources.

1.2 WebSphere Extended Deployment for z/OS V6.0.1 FMID

WebSphere Extended Deployment for z/OS V6.0.1 consists of the following FMID:

HEEX601 - WebSphere Extended Deployment for z/OS V6.0.1

2.0 Program Materials

An IBM program is identified by a program number. The program number for WebSphere Extended Deployment for z/OS V6.0.1 is 5655-P28.

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 WebSphere Extended Deployment for z/OS V6.0.1. 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 18 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for WebSphere Extended Deployment for z/OS V6.0.1 can be found in the *CBPDO Memo To Users Extension*.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for WebSphere Extended Deployment for z/OS V6.0.1.

2.3 Program Publications

The following sections identify the basic and optional publications for WebSphere Extended Deployment for z/OS V6.0.1. Please note the main documentation distribution medium for WebSphere Extended Deployment for z/OS V6.0.1 is the Information Center, which can be accessed via the WebSphere Extended Deployment for z/OS V6.0.1 product documentation page at <http://www.ibm.com/software/webservers/appserv/extend/library/>

In addition to the Information Center, WebSphere Extended Deployment for z/OS V6.0.1 product documentation is available in PDF format at the same URL.

2.3.1 Basic Program Publications

Figure 1 on page 4 identifies the basic unlicensed program publications for WebSphere Extended Deployment for z/OS V6.0.1. Downloadable copies of these publications are available on the WebSphere Extended Deployment for z/OS V6.0.1 Library site. Please see <http://www.ibm.com/software/webservers/appserv/extend/library/> to access the product documentation.

| <i>Figure 1. Basic Material: Unlicensed Publications</i> | |
|---|--------------------|
| Publication Title | Form Number |
| Program Directory for WebSphere Extended Deployment for z/OS V6.0.1 | GI10-0767 |
| License Information WebSphere Extended Deployment for z/OS V6.0.1 | GA76-0402 |

Figure 2 identifies the basic unlicensed or licensed publications that are not available in hardcopy form, but are available through the internet or other media for WebSphere Extended Deployment for z/OS V6.0.1.

All of the documents listed in Figure 2 are available for download at the WebSphere Extended Deployment for z/OS V6.0.1 Library page: <http://www.ibm.com/software/webservers/appserv/extend/library/>

| <i>Figure 2. Basic Material: Other Unlicensed or Licensed Publications</i> | | |
|--|--------------------|----------------------|
| Publication Title | Form Number | How Available |
| WebSphere Extended Deployment for z/OS V6.0.1 Customization Guide | GI10-0775-00 | Library page |

2.3.2 Optional Program Publications

No optional publications are provided for WebSphere Extended Deployment for z/OS V6.0.1.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for WebSphere Extended Deployment for z/OS V6.0.1.

2.5 Publications Useful During Installation

The publications listed in Figure 3 on page 5 may be useful during the installation of WebSphere Extended Deployment for z/OS V6.0.1. 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>.

You can also access these publications online at:

<http://www-1.ibm.com/servers/eserver/zseries/zos/bkserv/>

| Publication Title | Form Number |
|---|--------------------|
| <i>IBM SMP/E for z/OS and OS/390 User's Guide</i> | SA22-7773 |
| <i>IBM SMP/E for z/OS and OS/390 Commands</i> | SA22-7771 |
| <i>IBM SMP/E for z/OS and OS/390 Reference</i> | SA22-7772 |
| <i>IBM SMP/E for z/OS and OS/390 Messages, Codes, and Diagnosis</i> | GA22-7770 |
| <i>z/OS MVS JCL Reference</i> | SA22-7597 |
| <i>z/OS System Codes</i> | SA22-7626 |

3.0 Program Support

This section describes the IBM support available for WebSphere Extended Deployment for z/OS V6.0.1.

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing WebSphere Extended Deployment for z/OS V6.0.1, you should review the current Preventive Service Planning (PSP) information. If you obtained WebSphere Extended Deployment for z/OS V6.0.1 as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO.

If the CBPDO for WebSphere Extended Deployment for z/OS V6.0.1 is more than two weeks old when you install it, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

For program support, access the Software Support at the following Web site:

<http://www-3.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 WebSphere Extended Deployment for z/OS V6.0.1 are:

| UPGRADE | SUBSET | Description |
|----------------|---------------|---|
| WASXD601 | HEEX601 | WebSphere Extended Deployment for z/OS V6.0.1 |

3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. For technical support assistance visit

<http://www.ibm.com/support>

and perform a search on the symptoms you are experiencing with this program. For additional assistance, contact your IBM software support center at 1-800-IBM-SERV (800-426-7378), selecting option #2 for software assistance.

If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 5 identifies the component IDs (COMPID) for WebSphere Extended Deployment for z/OS V6.0.1.

| <i>Figure 5. Component IDs</i> | | | |
|--------------------------------|---------------|---|-----------------------|
| F MID | COMPID | Component Name | RETAIN Release |
| HEEX601 | 5655P2800 | WebSphere Extended Deployment for z/OS V6.0.1 | 601 |

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of WebSphere Extended Deployment for z/OS V6.0.1. 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

This is the first release of WebSphere Extended Deployment for z/OS.

4.2 Service Level Information

A PTF containing APAR fixes against this release of WebSphere Extended Deployment for z/OS V6.0.1 has been incorporated into this product tape. For a list of included PTFs, examine the ++VER statement in the product's SMPMCS.

WebSphere Application Server V6.0.1 for z/OS Service Level PTF 6.0.2.5 has been incorporated into the product tape.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating WebSphere Extended Deployment for z/OS V6.0.1. The following terminology is used:

- *Driving system*: the system used to install the program.
- *Target system*: the system on which the program is installed.

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 WebSphere Extended Deployment for z/OS V6.0.1.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

| <i>Figure 6. Driving System Software Requirements</i> | |
|---|---|
| Program Number | Product Name and Minimum VRM/Service Level |
| EITHER 5694-A01 or 5655-G52 | |
| 5694-A01 | z/OS V1.4 or later |
| 5655-G52 | z/OS.e V1.4 or later |
| 5655-I56 | Java 2 Technology Edition SDK 1.2 or later |

WebSphere Extended Deployment for z/OS V6.0.1 installs in the z/OS (Z038) SREL.

Notes:

1. UNIX must be up in full function mode on your driving system so that the utilities are available for the Shell Script support.
2. Before installing WebSphere Extended Deployment for z/OS V6.0.1, you must ensure that the target system's HFS 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.
4. The following installation job, as well as the SMP/E APPLY job, should be run under a userid with UID(0), or with a userid with read access to the BPX.SUPERUSER resource in the RACF facility class. This installation userid must also have read access to the facility class resources BPX.FILEATTR.PROGCTL, BPX.FILEATTR.APF, and BPX.FILEATTR.SHARELIB.
 - EEXISMKD

5.2 Target System Requirements

This section describes the environment of the target system required to customize and use WebSphere Extended Deployment for z/OS V6.0.1.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports WebSphere Application Server for z/OS V6.0.1 plus service associated with PTF 6.0.2.5 for z/OS. Consider using binary floating point hardware, such as S/390 Parallel Enterprise Server Generation 5 systems, and later.

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.

| <i>Figure 7. Mandatory Installation Requisites</i> | |
|--|---|
| Program Number | Product Name and Minimum VRM/Service Level |
| 5655-N01 | WebSphere Application Server for z/OS V6.0.1 |

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.

WebSphere Extended Deployment for z/OS V6.0.1 has 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.

WebSphere Application Server V6.0.1 for z/OS is a requisite for WebSphere Extended Deployment for z/OS V6.0.1

| <i>Figure 8. Mandatory Operational Requisites</i> | |
|---|---|
| Program Number | Product Name and Minimum VRM/Service Level |
| Any one of the following: | |
| 5694-A01 | z/OS V1.4 or later |
| 5655-G52 | z/OS.e V1.4 or later |

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.

WebSphere Extended Deployment for z/OS V6.0.1 has no conditional operational requisites.

5.2.2.3 Toleration/Coexistence Requisites

A toleration/coexistence requisite is defined as a product which 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.

WebSphere Extended Deployment for z/OS V6.0.1 has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites

A negative requisite identifies products which must *not* be installed on the same system as this product.

WebSphere Extended Deployment for z/OS V6.0.1 has no negative requisites.

5.2.3 DASD Storage Requirements

WebSphere Extended Deployment for z/OS V6.0.1 libraries can reside on all z/OS or z/OS.e supported DASD types.

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

| <i>Figure 9. Total DASD Space Required by WebSphere Extended Deployment for z/OS V6.0.1</i> | | |
|---|---|---|
| Library Type | Total Space Required (3390 Tracks) | Component |
| Target | 100 | WebSphere Extended Deployment for z/OS V6.0.1 |
| Distribution | 3325 | WebSphere Extended Deployment for z/OS V6.0.1 |
| HFS | 4500 | WebSphere Extended Deployment for z/OS V6.0.1 |

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 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, refer to 6.1.6, "Define Target and Distribution Libraries" on page 21.

3. Abbreviations used for the HFS 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.

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 a PDS or PDSE, unless PDSE is explicitly specified.

5. All target libraries listed have the following attributes:

- The data set may be SMS-managed.
- It is not required for the data set to be SMS-managed.
- It is not required for the data set to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types identified in the SMPMCS.

6. Some target libraries must be APF-authorized; some target libraries or library members must be placed in the LPA or LINKLST. See the customization instructions for details.

Figure 10 (Page 1 of 2). Storage Requirements for SMP/E Work Data Sets

| 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 |
|-------------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| SMPWRK1 | E | PDS | FB | 80 | 120 | 10 |
| SMPWRK2 | E | PDS | FB | 80 | 30 | 10 |
| SMPWRK3 | E | PDS | FB | 80 | 9500 | 150 |
| SMPWRK4 | E | PDS | FB | 80 | 80 | 10 |

Figure 10 (Page 2 of 2). Storage Requirements for SMP/E Work Data Sets

| 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 |
|-------------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| SMPWRK6 | E | PDS | FB | 80 | 9999 | 100 |
| SYSUT1 | E | SEQ | -- | -- | 7500 | 0 |
| SYSUT2 | E | SEQ | -- | -- | 30 | 0 |
| SYSUT3 | E | SEQ | -- | -- | 30 | 0 |
| SYSUT4 | E | SEQ | -- | -- | 30 | 0 |

If the table indicates that the SMPLTS data set must be a PDSE, but your existing SMPLTS is a PDS, you will need to allocate a new PDSE and copy you existing SMPLTS into it and then change the SMPLTS DDDEF entry to indicate the new PDSE data set.

Figure 11. Storage Requirements for SMP/E Data Sets

| 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 |
|-------------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| SMPLTS | E | PDSE | U | 0 | 6535 | - |
| SMPMTS | E | PDS | FB | 80 | 15 | 80 |
| SMPPTS | E | PDS | FB | 80 | 8000 | 80 |
| SMPSCDS | E | PDS | FB | 80 | 15 | 80 |
| SMPSTS | E | PDS | FB | 80 | 15 | 80 |

The following figures describe the target and distribution libraries and HFS paths required to install WebSphere Extended Deployment for z/OS V6.0.1. The storage requirements of WebSphere Extended Deployment for z/OS V6.0.1 must be added to the storage required by other programs having data in the same library or path.

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

Figure 12. Storage Requirements for WebSphere Extended Deployment for z/OS V6.0.1 Target Libraries

| Library DDNAME | Member Type | Target Volume | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|----------------|-------------|---------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| SEEXCLIB | CLIST | TVOL1 | U | PDS | FB | 80 | 10 | 5 |
| SEEXEXEC | EXEC | TVOL1 | U | PDS | VB | 255 | 10 | 5 |
| SEEXJCL | Sample | TVOL2 | U | PDS | FB | 80 | 10 | 5 |
| SEEXMJPN | MESSAGE | TVOL1 | U | PDS | FB | 80 | 10 | 5 |
| SEEXMLIB | MESSAGE | TVOL1 | U | PDS | FB | 80 | 10 | 5 |
| SEEXPJPN | PANEL | TVOL1 | U | PDS | FB | 80 | 10 | 10 |
| SEEXPLIB | PANEL | TVOL1 | U | PDS | FB | 80 | 10 | 10 |
| SEEXSLB2 | SKEL | TVOL1 | U | PDS | VB | 255 | 10 | 5 |
| SEEXSLIB | SKEL | TVOL1 | U | PDS | FB | 80 | 10 | 10 |

Figure 13. WebSphere Extended Deployment for z/OS V6.0.1 HFS Paths

| DDNAME | T Y P E | Path Name |
|----------|------------------|--------------------------------|
| SEEXEBCD | N | /usr/lpp/zWebSphereXD/V6R0/IBM |
| SEEXANT | N | /usr/lpp/zWebSphereXD/V6R0/IBM |

Figure 14 (Page 1 of 2). Storage Requirements for WebSphere Extended Deployment for z/OS V6.0.1 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 |
|----------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| AEXEXEC | U | PDS | VB | 255 | 10 | 5 |
| AEXANT | U | PDS | VB | 255 | 3150 | 200 |
| AEXCLIB | U | PDS | FB | 80 | 10 | 5 |
| AEXEBCD | U | PDS | VB | 31000 | 75 | 5 |
| AEXJCL | U | PDS | FB | 80 | 10 | 5 |
| AEXMJPN | U | PDS | FB | 80 | 10 | 5 |
| AEXMLIB | U | PDS | FB | 80 | 10 | 5 |

Figure 14 (Page 2 of 2). Storage Requirements for WebSphere Extended Deployment for z/OS V6.0.1 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 |
|-------------------|------------------|-------------|-----------------------|-----------------------|---------------------------|--------------------------|
| AEEXPJPN | U | PDS | FB | 80 | 10 | 5 |
| AEEXPLIB | U | PDS | FB | 80 | 10 | 5 |
| AEEXSLB2 | U | PDS | VB | 255 | 10 | 5 |
| AEEXSLIB | U | PDS | FB | 80 | 10 | 5 |

Notes:

1. WebSphere Extended Deployment for z/OS V6.0.1 will require several thousand additional tracks (3390) for run-time data sets; the amount of space depends on the application server structure to be used, the applications to be run and the amount of data storage the applications will require.
2. WebSphere Extended Deployment for z/OS V6.0.1 requires significantly larger amounts of HFS storage for downloadable Application Server Client code. See 6.1.6, "Define Target and Distribution Libraries" on page 21 for more information.

5.3 FMIDs Deleted

Installing WebSphere Extended Deployment for z/OS V6.0.1 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 want to delete these FMIDs at this time, you must install WebSphere Extended Deployment for z/OS V6.0.1 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.

5.3.1 SMP/E Considerations

Install WebSphere Extended Deployment for z/OS V6.0.1 into a new set of SMP/E zones, including SMPCSI, target, distribution, and HFS data sets, to allow independent maintenance of WebSphere, z/OS, and other subsystems. This program directory provides sample jobs and instructions to create such an SMP/E environment.

5.3.2 Driving System Mountpoint

During installation of WebSphere Extended Deployment for z/OS V6.0.1 on the driving system, the target HFS file system must be mounted at the following mountpoint:

`-PathPrefix-/usr/lpp/zWebSphereXD/V6R0`

where `-PathPrefix-` is an HFS path prefix such as `/SERVICE` or `/WXD60`. Use of a path prefix allows maintenance to be applied to a copy of the WebSphere HFS data sets without disturbing the production HFS data sets. For more information on the use of an HFS path prefix during product maintenance, see the Unix System Services Planning book for your release of z/OS.

Care must be taken that maintenance is applied to the proper HFS. Be sure to verify that the correct HFS is mounted at your service mountpoint(s) whenever maintenance is applied.

5.3.3 Target System Mountpoint

During customization and operation of WebSphere Extended Deployment for z/OS V6.0.1 on the target system, the target HFS file system must be mounted at the following mountpoint:

- A WebSphere Extended Deployment for z/OS V6.0.1 mountpoint, normally `/usr/lpp/zWebSphereXD/V6R0`

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and activate the functions of WebSphere Extended Deployment for z/OS V6.0.1. If you received WebSphere Extended Deployment for z/OS V6.0.1 through CBPDO or ServerPac, follow the instructions in the Program Directory for that package.

This release of WebSphere Extended Deployment for z/OS V6.0.1 is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish CBPDO or ServerPac, follow the instructions in the Program Directory the SMP/E installation steps.

Note: WebSphere Extended Deployment for z/OS V6.0.1 can be installed into new or existing SMP/E zones.

6.1 Installing WebSphere Extended Deployment for z/OS V6.0.1

All installation steps must be run from a userid that is defined to Unix Systems Services, and has the following attributes:

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

6.1.1 SMP/E Considerations for Installing WebSphere Extended Deployment for z/OS V6.0.1

We recommend that you install WebSphere Extended Deployment for z/OS V6.0.1 into a new set of SMP/E zones, including target, distribution, and HFS data sets. This allows separate maintenance of z/OS and WebSphere software. Sample jobs EEXCSICR and EEXZNCRT can be customized for your system and used to create a new CSI and SMP/E TARGET and DLIB zones. These jobs can be found in the product relfile IBM.HEEX601.F1, which is loaded during SMP/E processing; see Figure 15 for a list of sample jobs.

Note: If you choose to install WebSphere Extended Deployment for z/OS V6.0.1 into existing SMP/E target and distribution zones, be sure to remove any previous versions of WebSphere Application Server from the zones and remove the previous version's DDDEFs **before** installing the new version. See 5.3.1, "SMP/E Considerations" on page 16 for more information.

6.1.2 Sample Jobs

Sample jobs to allocate the target and distribution libraries, set up HFS directories, and create DDDEF entries for the WebSphere Extended Deployment for z/OS V6.0.1 elements have been provided.

Figure 15 lists the sample jobs for WebSphere Extended Deployment for z/OS V6.0.1.

Figure 15. Sample Installation Jobs

| Job Name | Job Type | Description | RELFILE |
|----------|----------|--|----------------|
| EEXCSICR | Setup | Sample job to create an SMP/E global zone | IBM.HEEX601.F1 |
| EEXZNCRT | Setup | Sample job to create an SMP/E target and distribution zones | IBM.HEEX601.F1 |
| EEXZNCRT | Setup | Sample job to create SMP/E target and distribution zones | IBM.HEEX601.F1 |
| EEXXZDEF | Setup | Sample job to add additional target zone definitions for cross-zone prerequisite checking | IBM.HEEX601.F1 |
| EEXALLOC | ALLOCATE | Sample job to allocate target and distribution libraries for Application Server | IBM.HEEX601.F1 |
| EEXISMKD | MKDIR | Sample job to invoke the supplied EEXMKDIR EXEC to create HFS paths for Application Server | IBM.HEEX601.F1 |
| EEXDDDEF | DDDEF | Sample job to define SMP/E DDDEFs for Application Server | IBM.HEEX601.F1 |
| EEXAPPLY | APPLY | Sample job to apply base and maintenance | IBM.HEEX601.F1 |
| EEXACCEP | ACCEPT | Sample job to accept base and maintenance | IBM.HEEX601.F1 |

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 15 on page 18 to find the appropriate relfile data set.

Each sample job contains comments with specific instructions for customization.

You may also choose to copy the jobs from the tape or product files by submitting the job below. Use either the //TAPEIN or the //FILEIN DD statement, depending on your distribution medium, and comment out or delete the other statement. Add a job card and change the lowercase parameters to uppercase values to meet your site's requirements before submitting.

```
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN DD DSN=IBM.Hwps601.F1,UNIT=tunit,
// VOL=SER=volser,LABEL=(x,SL),
// DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.Hwps601.F1,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jc1-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(30,20,5))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
/*
```

In the previous sample, update the statements as noted in the following description:

If using TAPEIN:

tunit is the unit value matching the product tape.

volser is the volume serial matching the product tape.

x is the tape file number where the data set name is on the tape.

Refer to the documentation provided by CBPDO to see where IBM.H28W601.F1 is on the tape.

If using FILEIN

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

OUT

jcl-library-name is the name of the output data set where the sample jobs will be stored.

dasdvol is the volume serial of the DASD device where the output data set will reside.

SYSIN

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

6.1.3 Allocate SMP/E CSI (Optional)

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

If you are allocating a new SMP/E CSI data set for this install, edit and submit sample job EEXCSICR to allocate the SMP/E CSI data set for WebSphere Extended Deployment for z/OS V6.0.1. Consult the instructions in the sample job for more information.

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

6.1.4 Define New SMP/E TARGET and DLIB Zones (Optional)

Edit and submit sample job EEXZNCRT to define new SMP/E Target and Distribution zones. Consult the instructions in the sample job for more information.

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

6.1.5 Perform SMP/E RECEIVE

Receive function SYSMODS and service for the WebSphere Extended Deployment for z/OS V6.0.1 elements by running the RCVPDO job. For more information, refer to *MVS CBPDO Memo to User Extension* included with the CBPDO.

The CBPDO contains all non-integrated PTFs for every WebSphere Extended Deployment for z/OS V6.0.1 FMID. (Cumulative service is included in CBPDO orders, so there is no separate cumulative service tape.) Depending on the options selected when you ordered the CBPDO, your order may contain service for other products in your profile.

To receive service for WebSphere Extended Deployment for z/OS V6.0.1 select FMID HEEX601.

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

6.1.6 Define Target and Distribution Libraries

Customize and run the EEXALLOC sample job to define target and distribution libraries for the Application Server component.

Make sure the data sets are allocated on the desired volumes.

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

6.1.7 Set Up HFS Directories

Customize the sample job EEXISMKD to mount the WebSphere Extended Deployment for z/OS product HFS(s) and create the HFS target directories needed to install the Application Server component.

Important!

- The EEXISMKD and EEXDDDEF jobs use `-PathPrefix-` to represent a service directory on your driving system. It is assumed that you will be mounting WebSphere Extended Deployment for z/OS V6.0.1 HFS data sets under a service directory that already contains the `/usr` and `/usr/lpp` directories. If you specify a `-PathPrefix-` directory which does not contain `/usr` and `usr/lpp` subdirectories, you must manually create these subdirectories before running the EEXISMKD job. If `-PathPrefix-/usr/lpp` is not a read/write HFS, you will need to manually create some additional subdirectories as well. See the comments in the EEXISMKD job for further information.

Run the customized sample job EEXISMKD under a userid with UID(0), or has read access to the BPX.SUPERUSER resource in the RACF facility class. The userid also needs read access to the BPX.FILEATTR.PROGCTL and BPX.FILEATTR.APF facility class resources.

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

Check the job output to verify that all directories have been created.

Verify that the product HFS is mounted at

`-PathPrefix-/usr/lpp/zWebSphereXD/V6R0`

6.1.8 Define SMP/E DDDEFs

Customize and run the sample job EEXDDDEF to create SMP/E DDDEFs for target and distribution data sets and directories. Make sure the call library DDDEFs point to the corresponding data sets for your z/OS target system.

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

6.1.9 Add Target Zones for Cross-Zone Prerequisite Checking

Because the WebSphere Application Server component has a number of maintenance requirements for the target z/OS systems, we recommend that you add the appropriate SMP/E target zones (z/OS, DB2, CICS, and IMS) for z/OS) to the WebSphere Application Server SMP/E global zone. This will allow SMP/E to check each zone for maintenance required by WebSphere Extended Deployment for z/OS V6.0.1.

Customize and run the EEXXZDEF job to add target zones to the global zone which will be used for the SMP/E APPLY and ACCEPT steps below.

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

6.1.10 Perform SMP/E APPLY

SMP/E apply processing for WebSphere Application Server for z/OS V6.0.1 uses the Java SDK JAR command to extract certain HFS files. In order for the JAR command to run correctly, SMP/E must be running with a fix for APAR IR54653, and the user ID used to run the EEXAPPLY job must have the SDK bin directory in its Unix System Services PATH. This can be accomplished in one of two ways:

1. Add an SDK bin directory containing the JAR command (such as /usr/lpp/java/IBM/J1.3/bin) to the PATH variable in /etc/profile before running the EEXAPPLY job. For example:

```
PATH=/usr/lpp/java/IBM/J1.3/bin:<rest of PATH>
```

2. Add an SDK bin directory to the PATH variable in a file named .profile in the HOME directory for the user ID used in running the EEXAPPLY job.

Test the availability of the JAR command by logging in to the OMVS shell with the user ID that will be used to run the EEXAPPLY job and entering the command "jar"; the JAR command should print its usage information. See the z/OS Unix System Services User's Guide for information about using /etc/profile and &HOME/.profile scripts.

Customize and run the sample job EEXAPPLY to perform an SMP/E APPLY CHECK of the Application Server base and service.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly (or a return code of 4, if any HOLDS are bypassed).

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass any of 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** (bypassed SYSMODs are treated as warnings, not errors, by SMP/E).

Note: The GROUPEXTEND operand indicates that SMP/E should APPLY all requisite SYSMODS. The requisite SYSMODS may be part of other products; review the APPLY CHECK output carefully before proceeding.

Once you have resolved any problems indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

You will receive a return code of 0 if this job runs correctly (or a return code of 4, if any HOLDS are bypassed).

6.1.11 Perform SMP/E ACCEPT

Customize and run the sample job EEXACCEP to perform an SMP/E ACCEPT CHECK of the Application Server base and service.

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

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass any of 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** (bypassed SYSMODs are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, you should 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 that contains inline JCLIN is accepted.

Note: The GROUPEXTEND operand indicates that SMP/E should ACCEPT all requisite SYSMODS. The requisite SYSMODS may be part of other products; review the ACCEPT CHECK output carefully before proceeding.

Once you have resolved any problems indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

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

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Program Directory for WebSphere Extended Deployment for z/OS V6.0.1, January 2006

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