IBM

Program Directory for

WebSphere Extended Deployment for z/OS V6.1.or

WebSphere Extended Deployment for z/OS

by Individual Components V6.1

Version 6 Release 1 Modification 0

Program Number 5655-P28 or 5655-S33

HEEX610, JEJC610, JEJD610, JEJO610, JEJE028, JEJE033

for Use with
WebSphere Application Server for z/OS V6.1

Document Date: January 2007

GI10-0792-00

> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under Appendix A, "Notices" on page 27.

Contents

Figures

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 V6.1, or one of the individually ordered components offered separately by WebSphere Extended Deployment for z/OS by Individual Components. The content of a specific component is identical regardless of the way it was ordered. The difference is that the former of the two contains all available components. The name WebSphere Extended Deployment for z/OS V6.1 will be used in this program directory to refer to both offerings , except when differences in the two offerings are described.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 4 identifies the basic and optional program materials and documentation for WebSphere Extended Deployment for z/OS V6.1.

- 3.0, "Program Support" on page 7 describes the IBM support available for WebSphere Extended Deployment for z/OS V6.1.

- 4.0, "Program and Service Level Information" on page 9 lists the PTF (service level) incorporated into WebSphere Extended Deployment for z/OS V6.1.

- 5.0, "Installation Requirements and Considerations" on page 10 identifies the resources and considerations required for installing and using WebSphere Extended Deployment for z/OS V6.1.

- 6.0, "Installation Instructions" on page 18 provides detailed installation instructions for WebSphere Extended Deployment for z/OS V6.1. It also describes the procedures for activating the functions of WebSphere Extended Deployment for z/OS V6.1, or refers to appropriate publications.

WebSphere Extended Deployment for z/OS V6.1 is an assembly of functions that when added to WebSphere Application Server for z/OS V6.1, 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 V6.1.

Prerequisite WebSphere Application Server for z/OS V6.1 provides the entire runtime environment needed for WebSphere Extended Deployment for z/OS V6.1. There are no additional CDs or products shipped with WebSphere Extended Deployment for z/OS V6.1.

Before installing WebSphere Extended Deployment for z/OS V6.1, 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 7 tells you how to find any updates to the information and procedures in this Program Directory.

When WebSphere Extended Deployment for z/OS V6.1 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 V6.1 are included on the CBPDO tape.

1.1 WebSphere Extended Deployment for z/OS V6.1 Description

WebSphere Extended Deployment for z/OS V6.1 offers enhanced quality of service focused exclusively on the Java 2 Enterprise Edition (J2EE) application layer by integrating with and extending the core functions of an existing WebSphere Application Server for z/OS installation. The qualities of service of your business-critical applications can be improved with the following new WebSphere Extended Deployment for z/OS V6.1 capabilities:

- Flexible support for mixed application types: Batch-type processing has been enhanced with many new features affecting job management, execution and programming model options. Job management improvements include integration with popular workload scheduling systems such as Tivoli Workload Scheduler and others to enable WebSphere Extended Deployment jobs to be part of the overall work schedule. Also, a new console has been added providing essential job management functions. A new job type has been added to transactional batch and compute intensive, which were previously supported. Referred to as Native Execution, it supports a more flexible programming style. Also, you can now use a simplified, non-EJB programming model for transactional batch jobs. When combined, these features provide you with more flexibility for executing a broad mix of application types under WebSphere Extended Deployment.

- Reliable, scalable, high-performance: Sharing object data across applications through an in-memory cache can provide significant performance improvements in high-volume online transaction processing environments. WebSphere Extended Deployment for z/OS V6.1 supports the ObjectGrid client feature which can improve the performance of individual applications. In addition, a broad range of innovative application scenarios is supported by connecting the ObjectGrid client on z/OS with ObjectGrid distributed resources to gain the benefits of enhancements made in WebSphere Extended Deployment V6.1.

- Dynamic operations: For environments where z/OS is the centralized platform, providing management across multiple distributed platforms including z/Linux, WebSphere Extended Deployment V6.1 has added new workload management and health policy support for PHP servers and expanded support for other application servers. This new support can enable a more consistent approach to achieve service levels and health policies across a heterogeneous set of application servers.

- Extended manageability: To improve overall operations of complex systems a new centralized install manager has been added reducing installation and maintenance efforts. Also, customizable health monitoring policies are now available to allow you to determine which situations to monitor and the actions to take when a specific situation arises.

1.2 WebSphere Extended Deployment for z/OS V6.1 FMIDs

WebSphere Extended Deployment for z/OS V6.1 consists of the following FMIDs:

HEEX610 - WebSphere Extended Deployment for z/OS V6.1 Base
JEJC610 - WebSphere Extended Deployment for z/OS Compute Grid
JEJD610 - WebSphere Extended Deployment for z/OS Data Grid
JEJO610 - WebSphere Extended Deployment for z/OS Operations Optimization
JEJE028 - WebSphere Extended Deployment for z/OS P28 Registration

WebSphere Extended Deployment for z/OS by Individual Components consists of:

HEEX610 - WebSphere Extended Deployment for z/OS V6.1 Base
JEJE033 - WebSphere Extended Deployment for z/OS S33 Registration

and at least one of the following optional component FMIDs:

JEJC610 - WebSphere Extended Deployment for z/OS Compute Grid
JEJD610 - WebSphere Extended Deployment for z/OS Data Grid
JEJO610 - WebSphere Extended Deployment for z/OS Operations Optimization

2.0 Program Materials

An IBM program is identified by a program number. WebSphere Extended Deployment is offered under two different program numbers in order to provide customers with pricing options. The program number for WebSphere Extended Deployment for z/OS is 5655-P28. Under this number customers can achieve a cost benefit from purchasing the entire suite. This program number also allows existing customers to continue their subscription support. The program number for WebSphere Extended Deployment for z/OS by Individual Components is 5655-S33. Under this number customers can purchase a portion of the product without having to purchase the entire product.

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 V6.1. 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 V6.1 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 V6.1.

2.3 Program Publications

The following sections identify the basic and optional publications for WebSphere Extended Deployment for z/OS V6.1. Note the main documentation distribution medium for WebSphere Extended Deployment for z/OS V6.1 is the Information Center, which can be accessed via the WebSphere Extended Deployment Library page at http://www.ibm.com/software/webservers/appserv/extend/library/

In addition to the Information Center, other WebSphere Extended Deployment for z/OS V6.1 articles are available in PDF format at the same URL.

2.3.1 Basic Program Publications

Figure 1 identifies the basic unlicensed program publications for WebSphere Extended Deployment for z/OS V6.1. Downloadable copies of these publications are available on the WebSphere Extended Library page. To access the documentation, see http://www.ibm.com/software/webservers/appserv/extend/library

Figure 1. Basic Material: Unlicensed Publications	
Publication Title	**Form Number**
Program Directory for WebSphere Extended Deployment for z/OS V6.1	GI10-0792
License Information WebSphere Extended Deployment for z/OS V6.1	GA76-0402-01

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 V6.1.

Figure 2. Basic Material: Other Unlicensed or Licensed Publications		
Publication Title	**Form Number**	**How Available**
WebSphere Extended Deployment for z/OS V6.1 Customization Guide	GI10-0775-01	Library page

2.3.2 Optional Program Publications

No optional publications are provided for WebSphere Extended Deployment for z/OS V6.1.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for WebSphere Extended Deployment for z/OS V6.1.

2.5 Publications Useful During Installation

The publications listed in Figure 3 may be useful during the installation of WebSphere Extended Deployment for z/OS V6.1. 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/

Figure 3. Publications Useful During Installation	
Publication Title	**Form Number**
IBM SMP/E for z/OS and OS/390 User's Guide	SA22-7773
IBM SMP/E for z/OS and OS/390 Commands	SA22-7771
IBM SMP/E for z/OS and OS/390 Reference	SA22-7772
IBM SMP/E for z/OS and OS/390 Messages, Codes, and Diagnosis	GA22-7770
z/OS MVS JCL Reference	SA22-7597
z/OS System Codes	SA22-7626

3.0 Program Support

This section describes the IBM support available for WebSphere Extended Deployment for z/OS V6.1.

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 V6.1, you should review the current Preventive Service Planning (PSP) information. If you obtained WebSphere Extended Deployment for z/OS V6.1 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 V6.1 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 V6.1 are:

Figure 4. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
WASXD610	HEEX610	WebSphere Extended Deployment for z/OS V6.1

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 V6.1.

FMID	COMPID	Component Name	RETAIN Release
Figure 5. Component IDs for WebSphere Extended Deployment for z/OS V6.1			
HEEX610	5655P2800	WebSphere Extended Deployment for z/OS V6.1 Base	610
JEJC610	5655P2801	WebSphere Extended Deployment for z/OS Compute Grid	610
JEJD610	5655P2802	WebSphere Extended Deployment for z/OS Data Grid	610
JEJ0610	5655P2803	WebSphere Extended Deployment for z/OS Operations Optimization	610
JEJE028	5655P2804	WebSphere Extended Deployment for z/OS P28 Registration	610

Figure 6 identifies the component IDs (COMPID) for WebSphere Extended Deployment for z/OS by Individual Components V6.1

FMID	COMPID	Component Name	RETAIN Release
Figure 6. Component IDs for WebSphere Extended Deployment for z/OS by Individual Components			
HEEX610	5655P2800	WebSphere Extended Deployment for z/OS V6.1 Base	610
JEJC610	5655P2801	WebSphere Extended Deployment for z/OS Compute Grid	610
JEJD610	5655P2802	WebSphere Extended Deployment for z/OS Data Grid	610
JEJ0610	5655P2803	WebSphere Extended Deployment for z/OS Operations Optimization	610
JEJE033	5655P2805	WebSphere Extended Deployment for z/OS S33 Registration	610

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of WebSphere Extended Deployment for z/OS V6.1. 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 V6.1 has 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 WebSphere Extended Deployment for z/OS V6.1. 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 V6.1.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

Figure 7. Driving System Software Requirements	
Program Number	**Product Name and Minimum VRM/Service Level**
5655-I56	Java 2 Technology Edition SDK 1.4 or later
Any one of the following:	
5694-A01	z/OS V1.6 or later
5655-G52	z/OS.e V1.6 or later

Note: WebSphere Extended Deployment for z/OS V6.1 installs in the z/OS (Z038) SREL.

- UNIX must be up in full function mode on your driving system so that the utilities are available for the Shell Script support.

- Before installing WebSphere Extended Deployment for z/OS V6.1, you must ensure that the target system's HFS is available (OMVS active and the target file systems mounted) for processing.

- 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.

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 V6.1.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports WebSphere Application Server for z/OS V6.1 plus service associated with PTF 6.0.1.8 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.

Figure 8. Mandatory Installation Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5655-N01	WebSphere Application Server for z/OS V6.1

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 V6.1 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 V6.1 for z/OS is a requisite for WebSphere Extended Deployment for z/OS V6.1

Figure 9. Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
Any one of the following:	
5694-A01	z/OS V1.6 or later
5655-G52	z/OS.e V1.6 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 V6.1 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 V6.1 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 V6.1 has no negative requisites.

5.2.3 DASD Storage Requirements

WebSphere Extended Deployment for z/OS V6.1 libraries can reside on all z/OS or z/OS.e supported DASD types.

Figure 10 on page 13 lists the total space required for each type of library.

Library Type	Total Space Required (3390 Tracks)	Component
Figure 10. Total DASD Space Required by WebSphere Extended Deployment for z/OS V6.1		
Target	20	WebSphere Extended Deployment for z/OS V6.1
Distribution	3948	WebSphere Extended Deployment for z/OS V6.1
HFS	5025	WebSphere Extended Deployment for z/OS V6.1

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, "Allocate SMP/E 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 11. 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
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 12. 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 V6.1. The storage requirements of WebSphere Extended Deployment for z/OS V6.1 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 13. Storage Requirements for WebSphere Extended Deployment for z/OS V6.1 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
SEEXEXEC	EXEC	TVOL1	U	PDS	VB	255	10	5
SEEXJCL	Sample	TVOL2	U	PDS	FB	80	10	5

Figure 14. WebSphere Extended Deployment for z/OS V6.1 HFS Paths		
DDNAME	T Y P E	Path Name
SEEXEBCD	N	/usr/lpp/zWebSphereXD/V6R1/IBM
SEEXANT	N	/usr/lpp/zWebSphereXD/V6R1/IBM

			R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
Figure 15. Storage Requirements for WebSphere Extended Deployment for z/OS V6.1 Distribution Libraries						
Library DDNAME	T Y P E	O R G				
AEEXEXEC	U	PDS	VB	255	10	5
AEEXANT	U	PDS	VB	255	3758	350
AEEXEBCD	U	PDS	VB	31000	170	15
AEEXJCL	U	PDS	FB	80	10	5

Notes:

1. WebSphere Extended Deployment for z/OS V6.1 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 V6.1 requires significantly larger amounts of HFS storage for downloadable Application Server Client code. See 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 21 for more information.

5.3 FMIDs Deleted

Installing WebSphere Extended Deployment for z/OS V6.1 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 V6.1 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.

5.4 Special Considerations

Install WebSphere Extended Deployment for z/OS V6.1 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.

5.4.1 Driving System Mountpoint

During installation of WebSphere Extended Deployment for z/OS V6.1 on the driving system, the target filesystem must be mounted at the following mountpoint:

-PathPrefix-/usr/lpp/zWebSphereXD/V6R1

where -PathPrefix- is a filesystem path prefix such as /SERVICE or /WXD61. Use of a filesystem path prefix allows maintenance to be applied to a copy of the WebSphere filesystem data sets without disturbing the production filesystem. For more information on the use of an filesystem 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 filesystem. Be sure to verify that the correct filesystem is mounted at your service mountpoint(s) whenever maintenance is applied.

5.4.2 Target System Mountpoint

During customization and operation of WebSphere Extended Deployment for z/OS V6.1 on the target system, the target filesystem must be mounted at the following mountpoint:

- A WebSphere Extended Deployment for z/OS V6.1 mountpoint, normally /usr/lpp/zWebSphereXD/V6R1

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 V6.1, or specific features if you ordered WebSphere Extended Deployment for z/OS v6.1 by Individual Components.

Please note the following:

- If you received WebSphere Extended Deployment for z/OS V6.1. through CBPDO or ServerPac, follow the instructions in the Program Directory for that package.

- If you want to install WebSphere Extended Deployment for z/OS V6.1. 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.

- 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 tasks.

For brevity, these instructions will refer only to WebSphere Extended Deployment for z/OS V6.1 unless an explanation is necessary to describe a specific difference in the installation instructions for WebSphere Extended Deployment for z/OS V6.1 Individual Components.

Note: WebSphere Extended Deployment for z/OS V6.1 can be installed into new or existing SMP/E zones.

6.1 Installing WebSphere Extended Deployment for z/OS V6.1

Run all installation steps from a user ID 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 V6.1

This release of WebSphere Extended Deployment for z/OS V6.1 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.

We recommend that you install WebSphere Extended Deployment for z/OS V6.1 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. You can customize sample jobs EEXCSICR and EEXZNCRT for your system and use these to create a new CSI and SMP/E TARGET and DLIB zones. You can find these jobs in the product relfile IBM.HEEX610.F3 which is loaded during SMP/E processing; see Figure 16 for a list of sample jobs.

Note: If you choose to install WebSphere Extended Deployment for z/OS V6.1 into existing SMP/E target and distribution zones, be sure to remove any previous versions of WebSphere Extended Deployment from the zones and remove the previous version's DDDEFs **before** installing the new version. See 5.4, "Special 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 V6.1 elements have been provided.

Figure 16 lists the sample jobs for WebSphere Extended Deployment for z/OS V6.1.

Figure 16. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
EEXCSICR	Setup	Creates an SMP/E global zone	IBM.HEEX610.F3
EEXZNCRT	Setup	Creates SMP/E target and distribution zones	IBM.HEEX610.F3
EEXXZDEF	Setup	Add additional target zone definitions for cross-zone prerequisite checking	IBM.HEEX610.F3
EEXALLOC	ALLOCATE	Allocates target and distribution libraries for WebSphere Extended Deployment.	IBM.HEEX610.F3
EEXISMKD	MKDIR	Invokes the supplied EEXMKDIR EXEC to create HFS paths for WebSphere Extended Deployment.	IBM.HEEX610.F3
EEXDDDEF	DDDEF	Defines SMP/E DDDEFs for WebSphere Extended Deployment.	IBM.HEEX610.F3
EEXAPPLY	APPLY	Applies ordered FMIDs and maintenance	IBM.HEEX610.F3
EEXACCEP	ACCEPT	Accepts ordered FMIDs and maintenance	IBM.HEEX610.F3

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 16 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.HEEX610.F3,UNIT=tunit,
//         VOL=SER=volser,LABEL=(x,SL),
//         DISP=(OLD,KEEP)
//FILEIN   DD DSN=IBM.HEEX610.F3,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=jcl-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.HEEX610.F3 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 V6.1. 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 V6.1 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 V6.1 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 V6.1 select the FMIDs for the components you purchased based on the list in section 1.2.

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

6.1.6 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job EEXALLOC to allocate the SMP/E target and distribution libraries for WebSphere Extended Deployment for z/OS V6.1. 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.

6.1.7 Allocate HFS Paths

Edit and submit sample job EEXISMKD to allocate the HFS paths for WebSphere Extended Deployment for z/OS V6.1. Consult the instructions in the sample job for more information.

If you plan to create a new HFS for this product, you should consider updating the BPXPRMxxx PARMLIB member to mount the new HFS at IPL time. This may be helpful if an IPL occurs before the installation is complete.

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

> **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 V6.1 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.

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

Verify that the product filesystem is mounted at

-PathPrefix-/usr/lpp/zWebSphereXD/V6R1

6.1.8 Create DDDEF Entries

Edit and submit sample job EEXDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for WebSphere Extended Deployment for z/OS V6.1. 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.

6.1.9 Add Target Zones for Cross-Zone Prerequisite Checking

Because the WebSphere Extended Deployment 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 Extended Deployment SMP/E global zone. This will allow SMP/E to check each zone for maintenance required by WebSphere Extended Deployment for z/OS V6.1.

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 in the following section.

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

Edit and submit sample job EEXAPPLY to perform an SMP/E APPLY CHECK for WebSphere Extended Deployment for z/OS V6.1. Consult the instructions in the sample job for more information.

SMP/E apply processing for WebSphere Extended Deployment for z/OS V6.1 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. If either SMP/E APAR IO04924 or IO05943 is installed, then SMP/E will NOT run /etc/profile or $HOME/.profile and the PATH environment variable will not be set. A new

DDDEF entry named SMPJHOME in the target zone is required. For example: //SMPJHOME DD
PATH='/usr/lpp/java/J5.0'

Test the availability of the JAR command by logging into the OMVS Shell with the user ID that will be
used to run the EEXAPPLY job and entering the following command: /usr/lpp/java/J5.0/jar

The JAR command should print its usage information.

If neither SMP/E APAR IO04924 nor IO05943 is installed, then SMP/E will run /etc/profile or
$HOME/.profile and the PATH environment variable will be set. The DDDEF entry named SMPJHOME in
the target zone (set in samples job EEXZNCRT) is not required and can be removed if you choose. 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.

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).

Enhanced HOLDDATA introduced 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/holdata/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.

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

1. 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 which will require the use of BYPASS.

2. 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)) .
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.

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

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.

Note!

Using GROUPEXTEND in APPLY with maintenance with HOLDDATA may cause a return code other than 0.

6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job EEXACCEP to perform an SMP/E ACCEPT CHECK for WebSphere Extended Deployment for z/OS V6.1. Consult the instructions in the sample job for more information.

Perform an SMP/E ACCEPT CHECK for PGMNAME..

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 job again to perform the ACCEPT.

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

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.

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.

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

6.2 Activating WebSphere Extended Deployment for z/OS V6.1

WebSphere Extended Deployment for z/OS V6.1 must be configured after SMP/E installation is complete. See the WebSphere Extended Deployment for z/OS V6.1 Customization Guide for more information at: http://www.ibm.com/software/webservers/appserv/extend/library

6.2.1 HFS Execution

If you choose to have the HFS in which you have installed WebSphere Extended Deployment for z/OS V6.1 mounted in read-only mode during execution, see the following section.

6.2.2 Mount the HFS Data Set on the Target System

Before proceeding with activation, unmount WebSphere Extended Deployment for z/OS V6.1 datasets on the driving system and mount them on the target system at the target system mount points. See 5.4.2, "Target System Mountpoint" on page 17, for assistance in selecting the mountpoint.

If you have selected the default mountpoints, you can use the following TSO command on your target system to mount the HFS data set:

```
MOUNT FILESYSTEM('hlq.SEEXHFS')
MOUNTPOINT('/usr/lpp/zWebSphereXD/V6R1') TYPE(HFS) MODE(READ)
```

You will probably want to add these mounts to your BPXPRMxx members in parmlib to ensure that these data sets are always mounted. When, at a later date, you need to perform service on the WebSphere Extended Deployment for z/OS V6.1 product:

- Temporarily unmount the HFS data sets.
- Mount HFS data sets to be serviced at the service (-PathPrefix-) mountpoint you created for installation.
- Apply the service.
- Unmount the HFS data sets from the service mountpoint.
- Remount at the production mountpoint.

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Reader's Comments

Program Directory for WebSphere Extended Deployment for z/OS V6.1, January 2007

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```
┌─ RATING SCALE ──────────────────────────────────────────────────────────────
   very                                very        not
 satisfied  <====================>  dissatisfied  applicable
    1       2         3        4         5             N
└──────────────────────────────────────────────────────────────────────────────
```

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

How did you order this product?

___ CBPDO
___ CustomPac
___ ServerPac
___ Independent
___ Other

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

___ Yes
___ No

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

___ Yes

___   No

If yes, how many years? __

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

    _____

    _____

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