IBM

Program Directory for

WebSphere eXtreme Scale V8.5.0 for z/OS

Version 8 Release 5 Modification 0

Program Number 5655-VX8
HEJD850

WebSphere Application Server for z/OS V7.0 or V8.0

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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 eXtreme Scale for z/OS V8.5.0 under program number 5655-VX8.

The Program Directory contains the following sections:

WebSphere eXtreme Scale V8.5.0 for z/OS is a highly available and linearly scalable data grid that integrates with WebSphere Application Server for z/OS V7.0 or WebSphere Application Server for z/OS V8.0, plus the enabling service level, which will extend its capabilities and manageability.

This product is shipped alone through CBPDO and as an additional feature to the WebSphere ServerPac, or WebSphere z/OS ServerPac. When shipped through CBPDO, it must be installed into an SMPE environment that already contains WebSphere Application Server for z/OS V7.0 or WebSphere Application Server for z/OS V8.0.

Prerequisite WebSphere Application Server for z/OS V7.0 or WebSphere Application Server for z/OS V8.0 provides the entire runtime environment needed for WebSphere eXtreme Scale V8.5.0 for z/OS. There are no additional CDs or products shipped with WebSphere eXtreme Scale V8.5.0 for z/OS.

Before installing WebSphere eXtreme Scale V8.5.0 for z/OS, 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 eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS are included on the CBPDO tape.

1.1 WebSphere eXtreme Scale V8.5.0 for z/OS Description

WebSphere eXtreme Scale V8.5.0 for z/OS provides Extreme Transaction Processing (XTP) capabilities that ensure a smarter application infrastructure to support your most demanding business-critical applications. You can overcome traditional IT performance limitations to generate the levels of global scale, process efficiencies, and business intelligence needed for smarter outcomes and for sustainable competitive advantage for your business. WebSphere eXtreme Scale V8.5.0 for z/OS provides client support access to the following new capabilities:

Improved ease of use with automated handling of common retry and exception logic.

Enhanced XTP capabilities:

Further simplification in building multi-tenant applications

Improved memory density through the implementation of byte array maps.

Query optimization and simplification of index usage with enhancements to the built-in HashIndex plug-in.

1.2 WebSphere eXtreme Scale V8.5.0 for z/OS FMID

The Installation Manager repository for WebSphere eXtreme Scale V8.5.0 for z/OS consists of the following FMID:

HEJD850 - WebSphere eXtreme Scale V8.5.0 for z/OS repository

2.0 Program Materials

An IBM program is identified by a program number. The program number for WebSphere eXtreme Scale V8.5.0 for z/OS is 5655-VX8.

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 eXtreme Scale V8.5.0 for z/OS. 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 16 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for WebSphere eXtreme Scale V8.5.0 for z/OS can be found in the *CBPDO Memo To Users Extension*.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for WebSphere eXtreme Scale V8.5.0 for z/OS.

2.3 Program Publications

The following sections identify the basic and optional publications for WebSphere eXtreme Scale V8.5.0 for z/OS. Note the main documentation distribution medium for WebSphere eXtreme Scale V8.5.0 for z/OS is the Information Center, which can be accessed via the WebSphere eXtreme Scale Library page at http://www.ibm.com/software/webservers/appserv/extremescale/library/

In addition to the Information Center, other WebSphere eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS. Downloadable copies of these publications are available on the WebSphere eXtreme Scale Library page. To access the documentation, see http://www.ibm.com/software/webservers/appserv/extremescale/library/

Figure 1. Basic Material: Unlicensed Publications	
Publication Title	**Form Number**
Program Directory for WebSphere eXtreme Scale V8.5.0 for z/OS	GI11-9489-00
License Information WebSphere eXtreme Scale V8.5.0 for z/OS	GC14-7542-00

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 eXtreme Scale V8.5.0 for z/OS.

Figure 2. Basic Material: Other Unlicensed or Licensed Publications		
Publication Title	**Form Number**	**How Available**
WebSphere eXtreme Scale V8.5.0 for z/OS Customization Guide	GI10-0775-05	Library page

2.3.2 Optional Program Publications

No optional publications are provided for WebSphere eXtreme Scale V8.5.0 for z/OS.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for WebSphere eXtreme Scale V8.5.0 for z/OS.

2.5 Publications Useful During Installation

The publications listed in Figure 3 may be useful during the installation of WebSphere eXtreme Scale V8.5.0 for z/OS. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at http://www.ibm.com/shop/publications/order.

You can also access these publications online at:

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

Figure 3 (Page 1 of 2). 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

Figure 3 (Page 2 of 2). Publications Useful During Installation	
Publication Title	**Form Number**
IBM SMP/E for z/OS and OS/390 Reference	SA22-7772
IBM SMP/E for z/OS, OS/390 Messages, Codes and Diagnosis	GA22-7770
z/OS MVS JCL Reference	SA22-7597
z/OS System Codes	SA22-7626
IBM Installation Manager for z/OS V1.5.2 Program Directory	GI11-9487-00

3.0 Program Support

This section describes the IBM support available for WebSphere eXtreme Scale V8.5.0 for z/OS.

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing WebSphere eXtreme Scale V8.5.0 for z/OS, you should review the current Preventive Service Planning (PSP) information. If you obtained WebSphere eXtreme Scale V8.5.0 for z/OS as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO.

If the CBPDO for WebSphere eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS and Installation Manager are:

Figure 4. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
WASXS850	HEJD850	WebSphere eXtreme Scale V8.5.0 for z/OS

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 on page 7 identifies the component IDs (COMPID) for WebSphere eXtreme Scale V8.5.0 for z/OS.

Figure 5. Component IDs for WebSphere eXtreme Scale V8.5.0 for z/OS			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
HEJD850	5655V6602	WebSphere eXtreme Scale V8.5.0 for z/OS	850

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of WebSphere eXtreme Scale V8.5.0 for z/OS. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs incorporated into the program.

4.1 Program Level Information

This is the first release of WebSphere eXtreme Scale V8.5.0 for z/OS.

4.2 Service Level Information

No PTFs against this release of WebSphere eXtreme Scale V8.5.0 for z/OS have been incorporated into the product tape. It is highly recommended that you frequently check the WebSphere eXtreme Scale V8.5.0 for z/OS PSP Bucket for HIPER and SPECIAL Attention PTFs against all FMIDs that you must install.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating WebSphere eXtreme Scale V8.5.0 for z/OS. 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 eXtreme Scale V8.5.0 for z/OS.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

Figure 6. Driving System Software Requirements	
Program Number	**Product Name and Minimum VRM/Service Level**
5694-A01	z/OS V1.11 or higher with APAR OA34228 applied to the z/OS driving system.
Any **one** of the following:	
5655-N98	IBM 31-bit SDK for z/OS, JAVA 2 Technology Edition, Version 5
5655-N99	IBM 64-bit SDK for z/OS, JAVA 2 Technology Edition, Version 5

Note: WebSphere eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS, you must ensure that the target system's HFS is available (OMVS active and the target file systems mounted) for processing.

5.2 Target System Requirements

This section describes the environment of the target system required to customize and use WebSphere eXtreme Scale V8.5.0 for z/OS.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports WebSphere Application Server for z/OS V7.0 plus service associated with PTF 7.0.0.21. As well, the target system can run in an environment that supports WebSphere Application Server for z/OS V8.0 plus service associated with PTF 8.0.0.3. Consider using binary floating point hardware, such as S/390 Parallel Enterprise Server Generation 5 systems, and higher.

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.

Program Number	Product Name and Minimum VRM/Service Level
Figure 7. Mandatory Installation Requisites	
5655-W65	WebSphere Application Server Network Deployment for z/OS V8.0.0 if WebSphere eXtreme Scale V8.5.0 for z/OS will be used with WebSphere Application Server for z/OS V8.0
5694-A01	z/OS V1.11 or higher
APAR OA34228	Must be applied to the driving system
5655-G44	IBM SMP/E for z/OS V3.05 or higher
5655-W65	IBM Installation Manager V1.5.2 or higher

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 eXtreme Scale V8.5.0 for z/OS 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.

Figure 8. Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5694-A01	z/OS V1.11 or higher
Any one of the following:	
5655-N02	WebSphere Application Server for z/OS V7.0 Fix Pack 7.0.0.21 with PTFs UK75030, UK75029, UK75028, UK74997, and UK74996.
5655-W65	WebSphere Application Server for z/OS V8.0 Fix Pack 8.0.0.3 with PTFs UK77459, UK77458, UK77455, UK77454, and UK77453.

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 eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS has no negative requisites.

5.2.3 DASD Storage Requirements

WebSphere eXtreme Scale V8.5.0 for z/OS 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.

Figure 9. Total DASD Space Required by WebSphere eXtreme Scale V8.5.0 for z/OS		
Library Type	**Total Space Required (3390 Tracks)**	**Component**
Target	20	WebSphere eXtreme Scale V8.5.0 for z/OS
Distribution	4520	WebSphere eXtreme Scale V8.5.0 for z/OS
File System	5250	For the product repository
File System	1500	WebSphere eXtreme Scale V8.5.0 for z/OS product files

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 20.

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. 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	4100	400
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 eXtreme Scale V8.5.0 for z/OS. The storage requirements of WebSphere eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS 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
SEJDEXEC	EXEC	TVOL1	U	PDS	VB	255	10	15
SEJDJCL	Sample	TVOL2	U	PDS	FB	80	10	15

Figure 13. WebSphere eXtreme Scale V8.5.0 for z/OS HFS Paths		
DDNAME	T Y P E	Path Name
SEJDIMR	N	/usr/lpp/InstallationManagerRepository/HEJD850/IBM

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
Figure 14. Storage Requirements for WebSphere eXtreme Scale V8.5.0 for z/OS Distribution Libraries						
AEJDEXEC	U	PDS	VB	255	10	15
AEJDIMR	U	PDS	VB	255	4500	700
AEJDJCL	U	PDS	FB	80	10	15

Note: WebSphere eXtreme Scale V8.5.0 for z/OS 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. See 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 20 for more information.

5.3 FMIDs Deleted

Installing WebSphere eXtreme Scale V8.5.0 for z/OS may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not want to delete these FMIDs at this time, you must install WebSphere eXtreme Scale V8.5.0 for z/OS into separate SMP/E target and distribution zones.

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

5.4 Special Considerations

WebSphere eXtreme Scale V8.5.0 for z/OS has no special considerations for the target system.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and activate the functions of WebSphere eXtreme Scale V8.5.0 for z/OS.

Please note the following:

If you received WebSphere eXtreme Scale V8.5.0 for z/OS through CBPDO or ServerPac, follow the instructions in the Program Directory for that package.

If you want to install WebSphere eXtreme Scale V8.5.0 for z/OS 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.

Note: WebSphere eXtreme Scale V8.5.0 for z/OS can be installed into new or existing SMP/E zones. However, it is highly recommended to install WebSphere eXtreme Scale V8.5.0 for z/OS into a new zone.

6.1 Installing WebSphere eXtreme Scale V8.5.0 for z/OS

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 eXtreme Scale V8.5.0 for z/OS

WebSphere eXtreme Scale V8.5.0 for z/OS is installed using the IBM Installation Manager and a repository containing the WebSphere eXtreme Scale V8.5.0 for z/OS code. You must create an IBM Installation Manager on your z/OS system. To create the IBM Installation Manager, see http://publib.boulder.ibm.com/infocenter/install/v1r5/index.jsp

A summary of using IBM Installation Manager is located in the IBM Installation Manager for z/OS V1.5.2 Program Directory, GI11-9487-00 which can be accessed at: http://ehone.ibm.com/publications/servlet/pbi.wss?CTY=US

Install the IBM Installation Manager repository for WebSphere eXtreme Scale V8.5.0 for z/OS using SMP/E as explained in section 6.1.2 "Sample Jobs" through section 6.1.11 "Mount the WebSphere eXtreme Scale V8.5.0 for z/OS Repository".

Follow the instructions in section 6.2, "Installing WebSphere eXtreme Scale V8.5.0 for z/OS with WebSphere Application Server for z/OS V7.0" to create a copy of the WebSphere eXtreme Scale V8.5.0 for z/OS for use with WebSpere Application Server for z/OS V7.0.

Follow the instructions in section 6.3, "Installing WebSphere eXtreme Scale V8.5.0 for z/OS with WebSphere Application Server for z/OS V8.0" to create a copy of the WebSphere eXtreme Scale V8.5.0 for z/OS for use with WebSphere Application Server for z/OS V8.0.

We recommend that you install WebSphere eXtreme Scale V8.5.0 for z/OS into a separate set of SMP/E zones from WebSphere Extended Deployment V6.1.0 for z/OS if you intend to continue using that product. WebSphere eXtreme Scale V8.5.0 for z/OS is not compatable with the eXtreme Scale (Data Grid) product shipped with WebSphere Extended Deployment 6.1.0 and should not be configured in the same WebSphere Application Server.

Note: If you choose to install WebSphere eXtreme Scale V8.5.0 for z/OS into existing SMP/E target and distribution zones, be sure to completely remove any previous versions of WebSphere eXtreme Scale from the zones and remove the previous version's DDDEFs **before** installing the new version. See 5.4, "Special Considerations" on page 15 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 eXtreme Scale V8.5.0 for z/OS elements have been provided.

Figure 15 lists the sample jobs for WebSphere eXtreme Scale V8.5.0 for z/OS.

Figure 15 (Page 1 of 2). Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
EJDCSICR	Setup	Creates an SMP/E global zone	IBM.HEJD850.F1
EJDZNCRT	Setup	Creates SMP/E target and distribution zones	IBM.HEJD850.F1
EJDALLOC	ALLOCATE	Allocates target and distribution libraries for WebSphere eXtreme Scale V8.5.0 for z/OS	IBM.HEJD850.F1
EJDISMKD	MKDIR	Invokes the supplied EJDMKDIR EXEC to create HFS paths WebSphere eXtreme Scale V8.5.0 for z/OS	IBM.HEJD850.F1
EJDDDDEF	DDDEF	Defines SMP/E DDDEFs for WebSphere eXtreme Scale V8.5.0 for z/OS	IBM.HEJD850.F1
EJDAPPLY	APPLY	Applies ordered FMIDs and maintenance	IBM.HEJD850.F1
EJDACCEP	ACCEPT	Accepts ordered FMIDs and maintenance	IBM.HEJD850.F1

Figure 15 (Page 2 of 2). Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
EJDRECEV	RECEIVE	Receives ordered FMIDs and maintenance	IBM.HEJD850.F1
EJD1INST	INSTALL	Sample install job to install WebSphere eXtreme Scale V8.5.0 for z/OS with WebSphere Application Server for z/OS V8.0	IBM.HEJD850.F1
EJD1UNIN	UNINSTALL	Sample uninstall job to uninstall a previously installed WebSphere eXtreme Scale V8.5.0 for z/OS from WebSphere Application Server for z/OS V8.0	IBM.HEJD850.F1
EJD2CFS	ALLOCIM	Allocate a new HFS for WebSphere eXtreme Scale V8.5.0 for z/OS for WebSphere Application Server for z/OS V7.0	IBM.HEJD850.F1
EJD2INST	INSTALL	Sample install job to install WebSphere eXtreme Scale V8.5.0 for z/OS with WebSphere Application Server for z/OS V7.0	IBM.HEJD850.F1
EJD2UNIN	UNINSTALL	Sample uninstall job to uninstall a previously installed WebSphere eXtreme Scale V8.5.0 for z/OS from WebSphere Application Server for z/OS V7.0	IBM.HEJD850.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 17 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.HEJD85 .F1,UNIT=tunit,
//         VOL=SER=volser,LABEL=(x,SL),
//         DISP=(OLD,KEEP)
//FILEIN   DD DSN=IBM.HEJD85 .F1,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name,
//         DISP=(NEW,CATLG,DELETE),
//         VOL=SER=dasdvol,UNIT=SYSALLDA,
//         SPACE=(TRK,(3 ,2 ,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.HEJD850.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 EJDCSICR to allocate the SMP/E CSI data set for WebSphere eXtreme Scale V8.5.0 for z/OS. 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 EJDZNCRT 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 eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS 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 eXtreme Scale V8.5.0 for z/OS 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 EJDALLOC to allocate the SMP/E target and distribution libraries for WebSphere eXtreme Scale V8.5.0 for z/OS. 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 EJDISMKD to mount the filesystem for WebSphere eXtreme Scale V8.5.0 for z/OS. Consult the instructions in the sample job for more information. 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 EJDISMKD and EJDDDDEF jobs use -PathPrefix- to represent a service directory on your driving system. It is assumed that you will be mounting WebSphere eXtreme Scale V8.5.0 for z/OS 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 EJDISMKD 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 EJDISMKD 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/InstallationManagerRepository/HEJD850

6.1.8 Create DDDEF Entries

Edit and submit sample job EJDDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for WebSphere eXtreme Scale V8.5.0 for z/OS. 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 Perform SMP/E APPLY

SMP/E apply processing for WebSphere eXtreme Scale V8.5.0 for z/OS 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 EJDAPPLY 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 EJDZNCRT) is not required and can be removed if you choose. The user ID used to run the EJDAPPLY 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/J5.0/bin) to the PATH variable in /etc/profile before running the EJDAPPLY job. For example:

       PATH=/usr/lpp/java/IBM/J5.0/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 EJDAPPLY 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 EJDAPPLY 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.

Edit and submit EJDAPPLY.

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.   │
└──┘

6.1.10 Perform SMP/E ACCEPT

Perform an SMP/E ACCEPT CHECK for WebSphere eXtreme Scale V8.5.0 for z/OS.

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.

Edit and submit EJDACCEP.

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.

6.1.11 Mount the WebSphere eXtreme Scale V8.5.0 for z/OS Repository

The SEJDIMR file system now contains the Installation Manager repository for WebSphere eXtreme Scale V8.5.0 for z/OS product. Unmount the SEJDIMR file system and remount it read-only at the location of your choice. The recommended location is: /usr/lpp/InstallationManagerRepository/HEJD850

6.2 Installing WebSphere eXtreme Scale V8.5.0 for z/OS with WebSphere Application Server for z/OS V7.0

This part of the program directory explains the steps to create a copy of WebSphere eXtreme Scale V8.5.0 for z/OS for use with WebSphere Application Server for z/OS V7.0.

When used with WebSphere Application Server for z/OS V7.0, the WebSphere Application Server for z/OS V7.0 product code is installed into its own product file system.

6.2.1 Create the WebSphere Application Server for z/OS File System

Edit and submit sample job EJD2CFS to allocate and mount a new file system for the WebSphere eXtreme Scale V8.5.0 for z/OS product code. Consult the instructions in the sample job for more information.

Mount this file system at the location where the Installation Manager will install, uninstall, or apply maintenance to the products in the file system. The mount location does not need to be the same location at which the file system is mounted in production.

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

6.2.2 Install WebSphere eXtreme Scale V8.5.0 for z/OS

Edit and submit sample job EJD2INST to install the WebSphere eXtreme Scale V8.5.0 for z/OS product code with the IBM Installation Manager. Consult the instructions in the sample jobs for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if the job runs correctly. When the installation is complete, unmount the product file system and remount it on your target system at the location at which it is to be accessed.

6.3 Installing WebSphere eXtreme Scale V8.5.0 for z/OS with WebSphere Application Server for z/OS V8.0

This part of the program directory explains the steps in creating a copy of the WebSphere eXtreme Scale V8.5.0 for z/OS for use with WebSphere Application Server for z/OS V8.0.

When used with WebSphere Application Server for z/OS V8.0, the WebSphere eXtreme Scale V8.5.0 for z/OS product code is installed into the WebSphere Application Server for z/OS V8.0 file system.

6.3.1 Mount the WebSphere Application Server for z/OS file system

Choose the copy of the WebSphere Application Server for z/OS product that you will use with WebSphere eXtreme Scale V8.5.0 for z/OS.

Mount the WebSphere Application Server for z/OS product file system, read/write, at the same location at which it was originally installed with the IBM Installation Manager. You can use the zMountFileSystem.sh script in the eclipse/tools subdirectory of the Installation Manager binaries location to mount this file system. For example,

```
cd /InstallationManager/bin/eclipse/tools
zMountFileSystem.sh -name WAS.V80.SBBOHFS
      -mountpoint /usr/lpp/zWebSphere/V8R0
```

You can add the -owner, -group, and -perm options to this command to set the ownership and permissions for all files in the file system.

6.3.2 Install WebSphere eXtreme Scale V8.5.0 for z/OS product with WebSphere Application Server for z/OS

Edit and submit sample job EJD1INST to install the WebSphere eXtreme Scale V8.5.0 for z/OS product code with the IBM Installation Manager. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: You will receive a return code of 0 if the job runs correctly. When the installation is complete, unmount the product file system and remount it on your target system at the location at which it is to be accessed.

6.4 Activate WebSphere eXtreme Scale V8.5.0 for z/OS

For instructions on how to activate and use WebSphere eXtreme Scale V8.5.0 for z/OS see: http://publib.boulder.ibm.com/infocenter/wxsinfo/v8r5/index.jsp

When configuring WebSphere eXtreme Scale V8.5.0 for z/OS for use with WebSphere Application Server for z/OS V7.0, you will specify the path to the (separate) copy of the WebSphere eXtreme Scale V8.5.0 for z/OS product code.

When configuring WebSphere eXtreme Scale V8.5.0 for z/OS for use with WebSphere Application Server for z/OS V8.0, you will not need specify a path to a (separate) copy of the WebSphere eXtreme Scale V8.5.0 for z/OS product code.

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Reader's Comments

Program Directory for WebSphere eXtreme Scale V8.5.0 for z/OS, May 2012

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For each of the topics below, indicate your satisfaction level by circling your choice from the rating scale. If a statement does not apply, circle N.

```
┌─ 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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Provide the following contact information:

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_____

Organization

_____

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Address

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Thank you for your participation.

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