Program Directory for WebSphere Process Server for z/OS V6.0.1

Version 6 Release 0 Modification 1

Program Number 5655-N53

for Use with
z/OS V1.4 or higher

Document Date: June 23, 2006

GI10-0781-00

Note!

Before using this information and the product it supports, be sure to read the general information under Appendix A, “Notices” on page 36.

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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 Process Server.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic and optional program materials and documentation for WebSphere Process Server.
- 3.0, “Program Support” on page 7 describes the IBM support available for WebSphere Process Server.
- 4.0, “Program and Service Level Information” on page 9 lists the APARs (program level) and PTFs (service level) incorporated into WebSphere Process Server.
- 5.0, “Installation Requirements and Considerations” on page 10 identifies the resources and considerations required for installing and using WebSphere Process Server.
- 6.0, “Installation Instructions” on page 22 provides detailed installation instructions for WebSphere Process Server. This section also contains instructions for installing WebSphere Application Server for z/OS. It also describes the procedures for activating the functions of WebSphere Process Server, or refers to appropriate publications.

Before installing WebSphere Process Server, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that were supplied with this program in softcopy form as well as this Program Directory and then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 7 tells you how to find any updates to the information and procedures in this Program Directory.

WebSphere Process Server is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory is provided in softcopy form on the CBPDO tape which 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 Process Server are included on the CBPDO tape.

Do not use this Program Directory if you are installing WebSphere Process Server with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the Program Directory as required.

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1.1 WebSphere Process Server Description

WebSphere Process Server is the next generation business process integration server that has evolved from proven business integration concepts, application server technologies and the latest open standards.

WebSphere Process Server, which supports a service oriented architecture (SOA), is the ideal platform for business applications that require business integration using different technologies. Using the WebSphere Integration Developer tool set, business integration solutions can be created using simplified integration mechanisms, such as the Service Component Architecture (SCA) programming model and the Service Data Objects (SDO) data model. SDO business objects can be defined, transformed, routed and mapped using SCA components. WebSphere Adapters supply connectivity to back-end Enterprise Information Systems (EIS). With WebSphere Process Server, business integration applications may define business logic and processes based on Web Services - Business Process Execution Language (BPEL), human tasks, and business rules. For the runtime monitoring of the business integration solutions,WebSphere Process Server provides Common Event Infrastructure (CEI), which centralizes the monitoring of the various events that occur in these applications.

WebSphere Process Server enables deployment of standards-based integration applications in an SOA structure. SOA is an application framework that takes everyday business applications and breaks them down into individual business functions and processes called services. SOA is a conceptual description of the structure of a software system in terms of its components and the services they provide, without regard for the underlying implementation of these components, services and connections between components. Loosely coupled integration applications that are based on SOA provide flexibility and agility.

WebSphere Process Server is designed to be equivalent, from a programming model perspective, with WebSphere Process Server for Multiplatforms.

1.2 WebSphere Process Server FMIDs

WebSphere Process Server consists of the following FMIDs:

HWPS601 - WebSphere Process Server for z/OS V6.0.1
H28W601 - WebSphere Application Server for z/OS V6.0.1

2.0 Program Materials

An IBM program is identified by a program number. The program number for WebSphere Process Server is 5655-N53.

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 Process Server. 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 22 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for WebSphere Process Server can be found in the *CBPDO Memo To Users Extension*.

Included with this product is a CD-ROM kit (LK4T-1419) containing software not intended to run on z/OS. These CD-ROMs provide additional value and tool support to your production and development environments. The use of these CD-ROMs is optional. See the packaging articles in the WebSphere Process Server Information Center for information on the installation and use of these CD ROMs.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for WebSphere Process Server.

2.3 Program Publications

The following sections identify the basic and optional publications for WebSphere Process Server. Please note the main documentation distribution medium for WebSphere Process Server is the Information Center, which can be accessed via the WebSphere Process Server product documentation page at http://www.ibm.com/software/integration/wps/library/infocenter/

In addition to the Information Center, WebSphere Process Server product documentation is available in PDF format at the same URL.

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2.3.1 Basic Program Publications

Figure 1 on page 4 identifies the basic unlicensed and licensed program publications for WebSphere Process Server. Downloadable copies of these publications are available on the WebSphere Process Server Library site. Please see http://www.ibm.com/software/integration/wps/library/infocenter/ to access the product documentation.

Figure 1. Basic Material: Unlicensed Publications

Publication Title	Form Number
Program Directory for WebSphere Process Server	GI10-0781-00
IBM International Program License Agreement Carefully read the IBM International Program License Agreement (document number Z125-3301), a copy of which is provided to you with your order. This document contains the base terms and conditions for the IBM software product with which it is included.	Z125-3301
WebSphere Process Server License Information Carefully read the WebSphere Process Server License information (document number LC23-4990), a copy of which is provided to you with your order. This document is an extension to the IBM International Program License Agreement (document number Z125-3301) and contains terms and conditions specific to the WebSphere Process Server program; it also contains terms that supersede license terms which may be included with components of the program. This document details your rights and obligations for the software included in CD-ROM package LK4T-1419.	LC23-4990-00

Figure 2 identifies the basic unlicensed publications that are not available in hardcopy form, but are available through the internet or other media for WebSphere Process Server.

The form number naming convention is as follows: wpsz_x_abc, where x is the latest release date and abc is the abbreviation of the guide (ins = installation).

All of the documents listed in Figure 2 are available for download as PDF documents at the WebSphere Process Server Library page: http://www.ibm.com/software/integration/wps/library/infocenter/doc

Figure 2 (Page 1 of 2). Basic Material: Other Unlicensed or Licensed Publications

Publication Title	Form Number	How Available
WebSphere Process Server for z/OS V6.0.1 Installing	wpsz_x_ins	Library page
WebSphere Process Server for z/OS V6.0.1 Product overview	wpsz_x_ovw	Library page
WebSphere Process Server for z/OS V6.0.1 Migrating to WebSphere Process Server	wpsz_x_mig	Library page
WebSphere Process Server for z/OS V6.0.1 Administering WebSphere Process Server	wpsz_x_adm	Library page

Figure 2 (Page 2 of 2). Basic Material: Other Unlicensed or Licensed Publications		
Publication Title	**Form Number**	**How Available**
WebSphere Process Server for z/OS V6.0.1 Developing and deploying modules	wpsz_x_dev	Library page
WebSphere Process Server for z/OS V6.0.1 Securing applications and their environment	wpsz_x_sec	Library page
WebSphere Process Server for z/OS V6.0.1 Monitoring	wpsz_x_mon	Library page
WebSphere Process Server for z/OS V6.0.1 Tuning	wpsz_x_tun	Library page
WebSphere Process Server for z/OS V6.0.1 Troubleshooting	wpsz_x_tro	Library page

2.3.2 Optional Program Publications

Additional documentation can be found on the IBM Redbooks site at: http://www.redbooks.ibm.com/.

Figure 3. Optional Material: Other Optional Publications		
Publication Title	**Form Number**	**How Available**
Technical Overview of WebSphere Process Server	REDP4041	Redbooks Website

2.4 Program Source Materials

No program source materials or viewable program listings are provided for WebSphere Process Server.

2.5 Publications Useful During Installation

The publications listed in Figure 4 may be useful during the installation of WebSphere Process Server. 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 4. 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 4. 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 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 Process Server.

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing WebSphere Process Server, you should review the current Preventive Service Planning (PSP) information. If you obtained WebSphere Process Server as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO.

If the CBPDO for WebSphere Process Server 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 Process Server are:

Figure 5. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
WPS601	HWPS601	WebSphere Process Server 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.

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Figure 6 on page 8 identifies the component IDs (COMPID) for WebSphere Process Server.

Figure 6. Component IDs

FMID	COMPID	Component Name	RETAIN Release
HWPS601	5655N5300	WebSphere Process Server for z/OS V6.0.1	601
H28W601	5655I3500	WebSphere Application Server for z/OS V6.0.1	601

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of WebSphere Process Server. 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

All applicable WebSphere Application Server for z/OS 6.0.1 service has been incorporated into the product tape. For the latest service information for WebSphere Application Server for z/OS, go to: http://www-1.ibm.com/support/docview.wss?rs=404&&uid=swg27006054

4.2 Service Level Information

No PTFs against this release of WebSphere Process Server have been incorporated into the product tape.

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5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating WebSphere Process Server. 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 Process Server.

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 (Page 1 of 2). Driving System Software Requirements

Program Number	Product Name and Minimum VRM/Service Level
EITHER 5694-A01 or 5665-G52:	
5694-A01	z/OS V1.4 or later, and the following APARs (LE) PQ82905, and (RRS) OA01707/UA03867

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Figure 7 (Page 2 of 2). Driving System Software Requirements

Program Number	Product Name and Minimum VRM/Service Level
5655-G52	z/OS.e V1.4 or later, and the following APARs (LE) PQ82905, and (RRS) OA01707/UA03867
5655-I56	Java 2 Technology Edition SDK 1.4
5655-G44	IBM SMP/E for z/OS Version 3 Release 1 or later, and the following APAR, (SMP/E) IR54653

WebSphere Process Server installs in the z/OS (Z038) SREL.

Notes:

1. Because WebSphere Application Server uses the SDK as part of the SMP/E processing, you must configure the driving system to have SDK 1.4.

   You can download a free copy of Java SDK 1.3 at

   http://
   www.ibm.com/servers/eserver/zseries/software/java/getskd13.html

   This SDK is different than the imbedded SDK mentioned in the following notes.
2. UNIX must be up in full function mode on your driving system so that the utilities are available for the Shell Script support.
3. Before installing WebSphere Process Server, you must ensure that the target system's HFS is available (OMVS active and the target file systems mounted) for processing.
4. An SMP/E utility entry for the binder is required. You can specify any of these program names in the UTILITY entry: IEWLINK, HEWL, LINKEDIT, or HEWLH096. (The linkage editor which uses the names HEWLKED, HEWLF064, IEWLF440, and IEWLF128 cannot be used.)
5. The following installation job, as well as the SMP/E APPLY job, should be run under a userid with UID(0), or with a userid with read access to the BPX.SUPERUSER resource in the RACF facility class. This installation userid must also have read access to the facility class resources BPX.FILEATTR.PROGCTL, BPX.FILEATTR.APF, and BPX.FILEATTR.SHARELIB.
   - BBOISMKD
   - BPZISMKD

5.2 Target System Requirements

This section describes the environment of the target system required to customize and use WebSphere Process Server.

5.2.1 Machine Requirements

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

5.2.2 Programming Requirements

5.2.2.1 Installation Requisites

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

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

See the WebSphere Process Server system requirements website at:
http://www.ibm.com/support/docview.wss?uid=swg27006205 for the latest support updates.

Figure 8. Mandatory Installation Requisites

Program Number	Product Name and Minimum VRM/Service Level
Any **one** of the following:	
5694-A01	z/OS V1.4 or later, and the following APARs (LE) PQ82905, and (RRS) OA01707/UA03867
5655-G52	z/OS V1.4e or later, and the following APARs (LE) PQ82905, and (RRS) OA01707/UA03867

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 Process Server 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 9. Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
Any **one** of the following:	
5694-A01	z/OS V1.4 or later with SAF enabled security package, such as Security Server (priced optional feature), with APARs/PTFs: OA01707/UA03867, PQ82905/UQ84924, PQ84939/UQ85857, OA06613/UA09243, OA06408, PQ86479/UQ88035, OA09448, OW54622, OA04699
5655-G52	z/OS.e V1.4 or later with SAF enabled security package, such as Security Server (priced optional feature), with APARs/PTFs: OA01707/UA03867, PQ82905/UQ84924, PQ84939/UQ85857, OA06613/UA09243, OA06408, PQ86479/UQ88035, OA09448, OW54622, OA04699

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.

Figure 10. Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5655-147	CICS TS V1.3 or later	Required if your application environment uses CICS Transaction Server.
5655-M69	CICS TG V6.0	Required if your application environment accesses CICS TS through the CICS Transaction Gateway (CICS TG)
5655-C56	IMS V8 or later	Required if your application environment accesses IMS through Java DataBase Connectivity (JDBC) or through IBM Connect/Connector for Java.
5675-DB2	DB2 V7 or later, and APARs PQ86525, PQ87786, PQ88082, PQ84404, PQ89043, PQ80841	Web Services UDDI and session persistence in DB2 for Web container
	Use of DB2 requires licensed utilities from IBM or equivalent 5687-E98 DB2 Utilities Suite, or equivalent, is recommended, in addition to DB2.	Required to use Web Services UDDI and session persistence for Web container or if your application environment accesses DB2 through Java DataBase Connectivity (JDBC) or through IBM Connection/Connector for Java.

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 Process Server 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 Process Server has no negative requisites.

5.2.3 DASD Storage Requirements

WebSphere Process Server libraries can reside on all z/OS or z/OS.e supported DASD types.

Figure 11 lists the total space required for each type of library.

Figure 11. Total DASD Space Required by WebSphere Process Server

Library Type	Total Space Required (3390 Tracks)	Component
Target	1800	WebSphere Application Server
Target	20	WebSphere Process Server
Distribution	32610	WebSphere Application Server
Distribution	6204	WebSphere Process Server
HFS	48000	WebSphere Application Server
HFS	6615	WebSphere Process Server

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 for Application Server, please refer to 6.1.7, “Define Target and Distribution Libraries” on page 26.

For information on the names and sizes of the required data sets for WebSphere Process Server, please refer to 6.2.4, “Define Target and Distribution Libraries” on page 31

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 12. Storage Requirements for SMP/E Work Data Sets

Library DDNAME	TYPE	ORG	RECFM	LRECL	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 13. Storage Requirements for SMP/E Data Sets

Library DDNAME	TYPE	ORG	RECFM	LRECL	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 Process Server. The storage requirements of WebSphere Process Server 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 14. Storage Requirements for WebSphere Process Server Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SBBOCLIB	Clist	TVOL1	U	PDS	FB	80	20	5
SBBODSD	DATA	TVOL2	U	PDSE	FB	80	60	-
SBBOEXEC	EXEC	TVOL1	U	PDS	VB	255	10	5
SBBOJCL	Sample	TVOL2	U	PDS	FB	80	10	5
SBBOLD2	LMOD	TVOL1	U	PDSE	U	0	10	-
SBBOLOAD	LMOD	TVOL1	U	PDSE	U	0	1467	-
SBBOLPA	LMOD	TVOL1	U	PDSE	U	0	21	-
SBBOMAC	MACRO	TVOL2	U	PDS	FB	80	10	5
SBBOMIG	LMOD	TVOL1	U	PDSE	U	0	41	-
SBBOMJPN	Message	TVOL1	U	PDS	FB	80	10	5
SBBOMLIB	Message	TVOL1	U	PDS	FB	80	10	5
SBBOMSG	Message	TVOL1	U	PDS	VB	255	10	5
SBBOPJPN	Panel	TVOL1	U	PDS	FB	80	30	10
SBBOPLIB	Panel	TVOL1	U	PDS	FB	80	30	10
SBBOSLB2	SKEL	TVOL1	U	PDS	VB	255	14	5
SBBOSLIB	SKEL	TVOL1	U	PDS	FB	80	40	10
SBPZEXEC	EXEC	TVOL1	U	PDS	VB	255	10	5
SBPZJCL	Sample	TVOL2	U	PDS	FB	80	10	5

Figure 15 (Page 1 of 2). WebSphere Process Server HFS Paths

DDNAME	TYPE	Path Name
SBBOBIN1	N	/usr/lpp/zWebSphere/V6R0/bin/IBM/
SBBODWN	N	/usr/lpp/zWebSphere/V6R0/downloads2/IBM/
SBBOEBCD	N	/usr/lpp/zWebSphere/V6R0/IBM/
SBBOEXP1	N	/usr/lpp/zWebSphere/V6R0/lib/IBM/
SBBOJAR	N	/usr/lpp/zWebSphere/V6R0/IBM/
SBBOANT	N	/usr/lpp/zWebSphere/V6R0/IBM/

Figure 15 (Page 2 of 2). WebSphere Process Server HFS Paths

DDNAME	TYPE	Path Name
SBBOZAR	N	/usr/lpp/zWebSphere/V6R0/IBM/
SGLDHCLI	P	/usr/lpp/ldapclient/IBM/
SGSKHFS	P	/usr/lpp/gskssl/IBM/
SIMWSA	P	/usr/lpp/internet/samples/API/IBM/
SBPZANT	N	/usr/lpp/zWPS/V6R0/IBM/
SBPZEBCD	N	/usr/lpp/zWPS/V6R0/IBM/

Figure 16 (Page 1 of 2). Storage Requirements for WebSphere Process Server Distribution Libraries

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ABBOANT	U	PDS	VB	255	9388	550
ABBOCLIB	U	PDS	FB	80	20	10
ABBOEBCD	N	PDS	VB	31000	14	10
ABBOEXEC	U	PDS	VB	255	10	5
ABBOEXP	U	PDS	FB	80	41	5
ABBOINC	U	PDS	VB	255	15	5
ABBOJAR	U	PDS	VB	255	7000	50
ABBOJCL	U	PDS	FB	80	10	5
ABBOMJPN	U	PDS	FB	80	10	5
ABBOMAC	U	PDS	FB	80	10	5
ABBOMLIB	U	PDS	FB	80	10	5
ABBOMSG	U	PDS	VB	255	10	5
ABBOOBJ	U	PDSE	U	0	1101	-
ABBOPJPN	U	PDS	FB	80	27	10
ABBOPLIB	U	PDS	FB	80	27	10
ABBOSLB2	U	PDS	VB	255	14	5
ABBOSLIB	U	PDS	FB	80	38	10
ABBOZAR	U	PDS	VB	255	15626	10

Figure 16 (Page 2 of 2). Storage Requirements for WebSphere Process Server Distribution Libraries

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ABPZANT	U	PDS	VB	255	6080	750
ABPZEBCD	U	PDS	VB	31000	104	15
ABPZEXEC	U	PDS	VB	255	10	5
ABPZJCL	U	PDS	FB	80	10	5

Notes:

1. IBM recommends the following Distribution Library Data Set secondary allocation:
   - ABBOZAR 1000 tracks
2. WebSphere Process Server 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.
3. WebSphere Process Server requires significantly larger amounts of HFS storage for downloadable Application Server Client code. See 6.1.7, “Define Target and Distribution Libraries” on page 26 for more information.

5.3 FMIDs Deleted

Installing WebSphere Process Server may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install WebSphere Process Server 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 Process Server is a functional successor to the following product:

- WebSphere Business Integration Server Foundation Version 5.1 (5655-L85)

The IBM Software Development Kit for z/OS Java 2 Technology Edition, Version 1.4, which is included as part of WebSphere Process Server, is a functional successor to various Java products from IBM, including those shipped with previous releases of WebSphere Application Server for z/OS and OS/390.

If you have previously installed any of these products, you should take the following considerations into account when installing WebSphere Process Server

5.4.1 SMP/E Considerations

We recommend that you install WebSphere Process Server 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.

If you install WebSphere Process Server into SMP/E target and distribution zones which contains a previous WebSphere Application Server release, you should completely remove the old release from the target and distribution zones **before** installing the new release. This can be done by receiving, applying, and accepting a "dummy sysmod" such as the following:

```
++FUNCTION (DELWAS4).
++VER(Z038) DELETE(
       H28W410/WebSphere Application Server 4.1/
       ).
```

This will remove the old WebSphere release from target and distribution libraries as well as from the SMPCSI; therefore, you may wish to make copies of these libraries before applying the sysmod above. Once the old WebSphere release has been deleted, remove any DDDEFs for the old release from the target and distribution zones, and install the new WebSphere release with new target and distribution data sets, using the instructions in this program directory.

5.4.2 Selecting Driving System Mountpoints

During installation of WebSphere Process Server on the driving system, the target HFS file systems must be mounted at the following mountpoints:

-PathPrefix-/usr/lpp/zWPS/V6R0

-PathPrefix-/usr/lpp/zWebSphere/V6R0

where -PathPrefix- is an HFS path prefix such as /SERVICE or /WAS61. Use of a path prefix allows maintenance to be applied to a copy of the WebSphere HFS data sets without disturbing the production HFS data sets. For more information on the use of an HFS path prefix during product maintenance, see the Unix System Services Planning book for your release of z/OS.

If you use a separate HFS for the downloadable Application Server Clients in WebSphere Process Server, mount it at

-PathPrefix-/usr/lpp/zWebSphere/V6R0/downloads2

before applying maintenance.

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

5.4.3 Selecting Target System Mountpoints

During customization and operation of WebSphere Process Server on the target system, the target HFS file system must be mounted at the following mountpoint:

- A WebSphere Process Server mountpoint, normally /usr/lpp/zWPS/V6R0
- A WebSphere mountpoint, normally /usr/lpp/zWebSphere/V6R0

  If you use a separate HFS for the downloadable Application Server Clients in WebSphere Process Server, mount it at

  /usr/lpp/zWebSphere/V6R0/downloads2

  on those systems from which you desire to download the Application Server Client code. The files in this HFS are not required for the product to run under z/OS.

Notes:

1. WebSphere Process Server also uses a "customization HFS" for each server node; by default, the initial customization HFS is mounted at /zWPS/V6R0. Data in this HFS is **not** compatible with releases of WebSphere prior to WebSphere Process Server. Do not attempt to reuse a customization HFS from WebSphere Application Server V3.02, V4.0, V4.0.1, V5.0, or V5.1 with WebSphere Process Server.
2. Refer to the WebSphere Information Center Reference Library for migrating Version 5 servers to Version 6.

5.4.4 Removal of old Java and WebSphere Levels

Java applications written to use older versions of Java (for example, those prior to SDK 1.4.0 or 1.4.1) may not run properly with the Java SDK contained in WebSphere Process Server for z/OS v6.0.1. Information on incompatibilities between older levels of Java and Java SDK 1.4.1 can be found on the website at http://www.ibm.com/servers/eserver/zseries/software/java/.

The old Java SDK level(s) should be maintained until all applications dependent on them have been migrated to the new SDK.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and activate the functions of WebSphere Process Server, including WebSphere Application Server for z/OS.

This release of WebSphere Process Server is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

Note: WebSphere Process Server can be installed into new or existing SMP/E zones.

6.1 Installing the Application Server

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

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

6.1.1 SMP/E Considerations for Installing Application Server

We recommend installing the Application Server into a new set of SMP/E zones, including target, distribution, and HFS data sets. This allows separate maintenance of z/OS and WebSphere software. Sample jobs BBOCSICR and BBOZNCRT can be customized for your system and used to create a new CSI and SMP/E TARGET and DLIB zones. These jobs can be found in the product relfile IBM.H28W601.F1, which is loaded during SMP/E processing; see Figure 18 on page 23 for a list of sample jobs.

Note: If you choose to install Application Server into existing SMP/E target and distribution zones, be sure to remove any previous versions of WebSphere Application Server from the zones and remove the previous version's DDDEFs **before** installing the new version. See 5.4.1, “SMP/E Considerations” on page 20 for more information.

6.1.2 SMP/E CALLLIBS Processing

WebSphere Application Server uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When WebSphere Application Server is installed, job BBODDDEF creates DDDEFs for the following call libraries. Make sure these DDDEFs point to the corresponding data sets for your z/OS target system.

Figure 17 lists the common DDDEFs needed by WebSphere Application Server for CALLLIBs processing.

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Figure 17. DDDEFs required for CALLLIBs processing	
DDDEFs	**Element of OS/390 or z/OS Product**
CSSLIB	BCP callable services
SCEEBND2	Language Environment
SCEECPP	Language Environment
SCEELIB	Language Environment
SCEELKED	Language Environment
SCEELKEX	Language Environment
SCEEOBJ	Language Environment
SCEESPC	Language Environment
SCLBSID	C/C++ IBM Open Class Library
SCSFMOD0	Cryptographic Services ICSF
SGLDHCLI	Security Server LDAP Server
SGSKHFS	Cryptographic Services System SSL
SIMWSA	IBM HTTP Server

Notes:

1. The DDDEFs above are used only to resolve the link-edit for WebSphere Application Server for z/OS using CALLLIBS. These data sets are not updated during the installation of WebSphere Application Server for z/OS.
2. SCEERUN must be in the system link list or in the STEPLIB of the APPLY and ACCEPT jobs for the installation to be successful.

6.1.3 Sample Jobs

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

Figure 18 lists the sample jobs for WebSphere Process Server.

Figure 18 (Page 1 of 2). Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
BBOCSICR	Setup	Sample job to create an SMP/E global zone	IBM.H28W601.F1
BBOZNCRT	Setup	Sample job to create SMP/E target and distribution zones	IBM.H28W601.F1
BBOXZDEF	Setup	Sample job to add additional target zone definitions for cross-zone prerequisite checking	IBM.H28W601.F1

Figure 18 (Page 2 of 2). Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
BBOALLOC	ALLOCATE	Sample job to allocate target and distribution libraries for Application Server	IBM.H28W601.F1
BBOISMKD	MKDIR	Sample job to invoke the supplied BBOMKDIR EXEC to create HFS paths for Application Server	IBM.H28W601.F1
BBODDDEF	DDDEF	Sample job to define SMP/E DDDEFs for Application Server	IBM.H28W601.F1
BBOAPPLY	APPLY	Sample job to apply base and maintenance	IBM.H28W601.F1
BBOACCEP	ACCEPT	Sample job to accept base and maintenance	IBM.H28W601.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 18 on page 23 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.H28W601.F1,UNIT=tunit,
//         VOL=SER=volser,LABEL=(x,SL),
//         DISP=(OLD,KEEP)
//FILEIN   DD DSN=IBM.H28W610.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,(30,20,5))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
    COPY INDD=xxxxIN,OUTDD=OUT
/*
```

In the sample above, update the statements as noted below:

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 H28W610 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.

6.1.4 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 BBOCSICR to allocate the SMP/E CSI data set for WebSphere Application Server 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.

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

Edit and submit sample job BBOZNCRT 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.

6.1.6 Perform SMP/E RECEIVE

Receive function SYSMODS and service for the WebSphere Application Server 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 Application Server 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 Application Server for z/OS select FMID H28W601.

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

6.1.7 Define Target and Distribution Libraries

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

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

Note: The BBOALLOC job is set up to allocate either one or two HFS data sets.

If you have a DASD volume large enough to accomodate a 55000 track (approximation for a 3390 device) HFS or if you wish to use a multivolume HFS, then change the SPACE allocation on the SBBOHFS DD statement in step ALLOCH to allow for a 55000 track (3390 device) HFS. DO NOT RUN STEP ALLCH2.

If you do not have a large enough DASD volume and do not wish to use a multivolume HFS, you must create and mount two separate HFS data sets; the second HFS data set will contain the downloadable Application Server code. Run both steps ALLOCH and ALLCH2 and be sure to specify the correct volume for each HFS.

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

6.1.8 Set Up HFS Directories

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

Important!

- The BBOISMKD and BBODDDEF jobs use -PathPrefix- to represent a service directory on your driving system. It is assumed that you will be mounting WebSphere Application Server 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 BBOISMKD 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 BBOISMKD job for further information.
- If you chose to create two product HFS's in job BBOALLOC, be sure to specify both HFS data set names on the BBOMKDIR command in job BBOISMKD. The BBOISMKD job will mount the first product HFS, create directories (including downloads) in it, mount the second product HFS at

  -PathPrefix-/usr/lpp/zWebSphere/V6R0/downloads2

  and create the downloads subdirectories in the second HFS.
- If you chose to create a single product HFS in job BBOALLOC, specify only one HFS data set name on the BBOMKDIR command in job BBOISMKD. The BBOISMKD job will mount the product HFS and create all product directories in it.

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

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

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

Verify that the product HFS is mounted at

-PathPrefix-/usr/lpp/zWebSphere/V6R0

If you are making a second product HFS for downloads, verify that it is mounted at

-PathPrefix-/usr/lpp/zWebSphere/V6R0/downloads2

6.1.9 Define SMP/E DDDEFs

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

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

6.1.10 Add Target Zones for Cross-Zone Prerequisite Checking

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

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

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

6.1.11 Perform SMP/E APPLY

SMP/E apply processing for WebSphere Application Server for z/OS V6.0.1 uses the Java SDK JAR command to extract certain HFS files. In order for the JAR command to run correctly, SMP/E must be running with a fix for APAR IR54653, and the user ID used to run the BBOAPPLY 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 BBOAPPLY 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 BBOAPPLY 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 BBOAPPLY job and entering the command "jar"; the JAR command should print its usage information. See the z/OS Unix System Services User's Guide for information about using /etc/profile and `&HOME/.profile` scripts.

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

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

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

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

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

Expected Return Codes and Messages from APPLY:

Possible warning messages include:

- IEW2480W A711 EXTERNAL SYMBOL xxxxx OF TYPE LD WAS ALREADY DEFINED AS A SYMBOL OF TYPE LD IN SECTION xxxxx.
- IEW2482W A712 THE ORIGINAL DEFINITION WAS IN A MODULE IDENTIFIED BY DDNAME xxxxxx. THE DUPLICATE DEFINITION IS IN SECTION xxxxxxx IN A MODULE IDENTIFIED BY DDNAME xxxxxxx.
- IEW2454W 9203 SYMBOL xxxxxxx UNRESOLVED. NO AUTOCALL (NCAL) SPECIFIED. NAME SPACE=3.
- IEW2650I 5102 MODULE ENTRY NOT PROVIDED. ENTRY DEFAULTS TO SECTION xxxxxxx.

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

6.1.12 Perform SMP/E ACCEPT

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

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

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

Before using SMP/E to load new distribution libraries, you should set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is accepted.

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

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

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

6.2 Installing WebSphere Process Server

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

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

6.2.1 SMP/E Considerations for Installing WebSphere Process Server

The WebSphere Process Server component must be installed into the same Target and Distribution zones as WebSphere Application Server for z/OS.

WebSphere Process Server installation does not require a DDDEF for SYSLIB; however, SMP/E APPLY processing expects to find one. If necessary, create DDDEFs for SMPMTS and SYS1.MACLIB, and create a SYSLIB DDDEF that points to a concatenation of these two data sets. See *IBM SMP/E for z/OS and OS/390 Reference* for more information about the SYSLIB concatenation.

6.2.2 Sample Jobs

Sample jobs to allocate the target and distribution libraries, set up HFS directories, and create DDDEF entries for the WebSphere Process Server elements have been provided.

Figure 19 on page 30 lists the sample jobs for WebSphere Process Server.

Figure 19. Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
BPZXZDEF	Setup	Sample job to add additional target zone definitions for cross-zone prerequisite checking	IBM.HWPS601.F1
BPZALLOC	ALLOCATE	Sample job to allocate target and distribution libraries for WebSphere Process Server	IBM.HWPS601.F1
BPZISMKD	MKDIR	Sample job to invoke the supplied BBOMKDIR EXEC to create HFS paths for WebSphere Process Server	IBM.HWPS601.F4
BPZDDDEF	DDDEF	Sample job to define SMP/E DDDEFs for WebSphere Process Server	IBM.HWPS601.F1
BPZAPPLY	APPLY	Sample job to apply base and maintenance	IBM.HWPS601.F1
BPZACCEP	ACCEPT	Sample job to accept base and maintenance	IBM.HWPS601.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 19 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.

The sample job below points to F1. You will also need to run the UNLOAD again for F4.

```
//STEP1    EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN   DD DSN=IBM.HWPS601.F1,UNIT=tunit,
//         VOL=SER=volser,LABEL=(x,SL),
//         DISP=(OLD,KEEP)
//FILEIN   DD DSN=IBM.HWPS601.F1,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=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 sample above, update the statements as noted below:

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.HWPS601.F1 is on the tape.

If using FILEIN

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

OUT

jcl-library-name is the name of the output data set where the sample jobs will be stored.
dasdvol is the volume serial of the DASD device where the output data set will reside.

SYSIN

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

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

6.2.3 Perform SMP/E RECEIVE

Receive function SYSMODS and service for the WebSphere Process Server 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 Process Server 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 Process Server select FMID HWPS601.

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

6.2.4 Define Target and Distribution Libraries

Customize and run the BPZALLOC sample job to define target and distribution libraries for the WebSphere Process Server component.

Make sure the data set is allocated on the desired volume.

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

6.2.5 Set Up HFS Directories

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

Important!

- The BPZISMKD and BPZDDDEF jobs use -PathPrefix- to represent a service directory on your driving system. It is assumed that you will be mounting WebSphere Process Server 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 BPZISMKD 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 BPZISMKD job for further information.

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

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

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

Verify that the product HFS is mounted at

-PathPrefix-/usr/lpp/zWPS/V6R0

6.2.6 Define SMP/E DDDEFs

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

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

6.2.7 Add Target Zones for Cross-Zone Prerequisite Checking

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

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

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

6.2.8 Perform SMP/E APPLY

SMP/E apply processing for WebSphere Process Server for z/OS V6.0.1 uses the Java SDK JAR command to extract certain HFS files. In order for the JAR command to run correctly, SMP/E must be running with a fix for APAR IR54653, and the user ID used to run the BPZAPPLY 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 BPZAPPLY 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 BPZAPPLY 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 BPZAPPLY job and entering the command "jar"; the JAR command should print its usage information. See the z/OS Unix System Services User's Guide for information about using /etc/profile and `&HOME/.profile` scripts.

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

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

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

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

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

Expected Return Codes and Messages from APPLY:

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

6.2.9 Perform SMP/E ACCEPT

Customize and run the sample job BPZACCEP to perform an SMP/E ACCEPT CHECK of the WebSphere Process Server base and service.

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

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

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

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

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

6.3 Activating WebSphere Process Server

WebSphere Process Server must be configured once SMP/E installation is complete. See the *WebSphere Process Server for z/OS V6.0.1 installation topics in the information center for more information on how to enable WebSphere Process Server for use, along with additional information from the WebSphere Process Server Infocenter, which is located at:*

http://www.ibm.com/software/integration/wps/library/infocenter

6.3.1 Mount the HFS Data Set on the Target System

Before proceeding with activation, unmount the WebSphere Process Server HFS data set on the driving system, and mount it on the target system at the target system mountpoint. See 5.4.3, "Selecting Target System Mountpoints" on page 21, for assistance in selecting the mountpoint. If you have selected the default mountpoint, you can use the following TSO command on your target system to mount the HFS data set:

```
MOUNT FILESYSTEM('hlq.SBBOHFS')
  MOUNTPOINT('/usr/lpp/zWebSphere/V6R0') TYPE(HFS) MODE(READ)
MOUNT FILESYSTEM('hlq.SBPZHFS')
  MOUNTPOINT('/usr/lpp/zWPS/V6R0') 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 Process Server for z/OS V6.0.1 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.*

6.3.2 Activating WebSphere Process Server

WebSphere Process Server for z/OS V6.0.1 Information Center contains the step-by-step procedures to activate the functions of WebSphere Process Server for z/OS V6.0.1.

6.3.3 Migrating from WebSphere Business Integration Server Foundation

For migration information, see the WebSphere Process Server for z/OS Information Center, which is accessible via the library Web site:

http://www.ibm.com/software/integration/wps/library/infocenter

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Reader's Comments

Program Directory for WebSphere Process Server, June 23, 2006

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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, please list them below:

_____
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