



**Program Directory for
IBM Workload Scheduler for z/OS
(English)**

Version 9.3.0

Program Number 5698-T08

for Use with
z/OS

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Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 27.

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1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM Workload Scheduler for z/OS. This publication refers to IBM Workload Scheduler for z/OS as IBM Workload Scheduler for z/OS.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for IBM Workload Scheduler for z/OS.
- 3.0, “Program Support” on page 7 describes the IBM support available for IBM Workload Scheduler for z/OS.
- 4.0, “Program and Service Level Information” on page 9 lists the APARs (program level) and PTFs (service level) that have been incorporated into IBM Workload Scheduler for z/OS.
- 5.0, “Installation Requirements and Considerations” on page 13 identifies the resources and considerations that are required for installing and using IBM Workload Scheduler for z/OS.
- 6.0, “Installation Instructions” on page 21 provides detailed installation instructions for IBM Workload Scheduler for z/OS. It also describes the procedures for activating the functions of IBM Workload Scheduler for z/OS, or refers to appropriate publications.

Before installing IBM Workload Scheduler for z/OS, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this program directory; 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.

IBM Workload Scheduler for z/OS is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The program directory that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for IBM Workload Scheduler for z/OS are included on the CBPDO tape.

Do not use this program directory if you install IBM Workload Scheduler for z/OS with a SystemPac or ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

1.1 IBM Workload Scheduler for z/OS Description

IBM Workload Scheduler for z/OS is a program for enterprise-wide production workload scheduling. It enables you to plan, schedule, and track the workload, not only on z/OS platforms, but also in a distributed environment.

This program directory is intended for the system programmer responsible for program installation and

maintenance. It contains information concerning the material and procedures associated with the installation of IBM Workload Scheduler for z/OS. You should read all of this program directory before installing the program and then keep it for future reference.

This program directory should be used when installing the English language version of the IBM Workload Scheduler for z/OS base function together with one (or more) additional IBM Workload Scheduler for z/OS features.

If you are installing the English language as additional language, then there are steps that you need to skip during the installation.

1.2 IBM Workload Scheduler for z/OS FMIDs

IBM Workload Scheduler for z/OS consists of the following FMIDs:

- HWSZ930
- JWSZ932
- JWSZ93B
- JWSZ933
- JWSZ934

2.0 Program Materials

An IBM program is identified by a program number. The program number for IBM Workload Scheduler for z/OS is 5698-T08.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product.

The program announcement material describes the features supported by IBM Workload Scheduler 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 physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 21 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for IBM Workload Scheduler for z/OS in the *CBPDO Memo To Users Extension*.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for IBM Workload Scheduler for z/OS.

2.3 Program Publications

The following sections identify the basic publications for IBM Workload Scheduler for z/OS.

Figure 1 identifies the basic unlicensed publications for IBM Workload Scheduler for z/OS. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at <http://www.ibm.com/shop/publications/order/>.

Publication Title	Form Number	Media Format
Memo to Users		Inside the product package
Program Directory		Inside the product package
Getting Started		Product infocenter
Planning and Installation		Product infocenter

Figure 1 (Page 2 of 2). Basic Material: Unlicensed

Publication Title	Form Number	Media Format
Customization and Tuning		Product infocenter
Managing the Workload		Product infocenter
Scheduling End-to-end with Fault-Tolerance Capabilities		Product infocenter
Scheduling End-to-end with z-centric Capabilities		Product infocenter
Quick Reference		Product infocenter
Diagnosis Guide and Reference		Product infocenter
Messages and Codes		Product infocenter
Developer's Guide: Driving IBM Workload Scheduler for z/OS		Product infocenter
IBM Workload Automation: Overview		Product infocenter
Workload Automation Programming Language for z/OS User's Guide and Reference		Product infocenter

The IBM Workload Scheduler for z/OS product manuals and other IBM product documentation can be found at the IBM Knowledge Center url listed below:

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

2.4 Program Source Materials

No program source materials or viewable program listings are provided for IBM Workload Scheduler for z/OS.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 2 during the installation of IBM Workload Scheduler for z/OS.

Figure 2 (Page 1 of 2). Publications Useful During Installation

Publication Title	Form Number	Media Format
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275	http://www.ibm.com/shop/publications/order/

Figure 2 (Page 2 of 2). Publications Useful During Installation

Publication Title	Form Number	Media Format
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883	http://www.ibm.com/shop/publications/order/

3.0 Program Support

This section describes the IBM support available for IBM Workload Scheduler for z/OS.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IBM Workload Scheduler for z/OS, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections.

If you obtained IBM Workload Scheduler for z/OS as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IBM Workload Scheduler for z/OS is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

<http://www14.software.ibm.com/webapp/set2/psearch/search?domain=psp>

You can also use S/390 SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at <http://www-01.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 IBM Workload Scheduler for z/OS are included in Figure 3.

Figure 3. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
TWSZOS930	HWSZ930	Agent
	JWSZ932	Engine
	JWSZ93B	Engine English
	JWSZ933	End-to-End and Java Enablers
	JWSZ934	z/OS Connector Enabler

3.3 Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 4 on page 8 identifies the component IDs (COMPID) for IBM Workload Scheduler for z/OS.

<i>Figure 4. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
HWSZ930	5697WSZ01	Agent	930
JWSZ932	5697WSZ01	Engine	932
JWSZ93B	5697WSZ01	Engine English	93B
JWSZ933	5697WSZ01	End-to-End and Java Enablers	933
JWSZ934	5697WSZ01	z/OS Connector Enabler	934

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IBM Workload Scheduler for z/OS. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

The following APAR fixes against previous releases of IBM Workload Scheduler for z/OS have been incorporated into this release. They are listed by FMID.

- FMID HWSZ930

PI11149
PI13014
PI13896
PI14422
PI14515
PI16782
PI17857
PI18207
PI18316
PI20562
PI21214
PI22055
PI22144
PI24904
PI24927
PI24933
PI25105
PI25287
PI26094
PI26372
PI26806
PI27052
PI27854
PI28024
PI28025
PI28027
PI28035
PI28087
PI31362
PI31769
PI34075

PI33841
PI34263
PI35560
PM74598
PM77745

- FMID JWSZ932

PI10989
PI11149
PI11634
PI12069
PI13362
PI13382
PI13759
PI13894
PI13896
PI14837
PI15382
PI15834
PI16479
PI16782
PI17291
PI17349
PI17712
PI17857
PI18207
PI19352
PI19518
PI20077
PI20562
PI22035
PI22055
PI23344
PI24119
PI24940
PI25107
PI26094
PI25323
PI25887
PI26372
PI26895
PI27037
PI27509
PI27896
PI28027

PI30423
PI31023
PI31362
PI33037
PI34075
PM74598
PM77745

- FMID JWSZ93B

PI11149
PI11379
PI13896
PI28035
PI32287

- FMID JWSZ934

PI11149

4.2 Service Level Information

No PTFs against this release of IBM Workload Scheduler for z/OS have been incorporated into the product package.

Frequently check the IBM Workload Scheduler 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 IBM Workload Scheduler for z/OS. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.
The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.
- *Target system*: the system on which the program is configured and run.
The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must 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.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.
- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can 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 IBM Workload Scheduler for z/OS.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

Figure 5. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
Any one of the following:				
5694-A01	z/OS	V01.13.00	N/A	No
5655-G44	IBM SMP/E for z/OS	V03.05.00	N/A	No

Note: SMP/E is a requirement for Installation and is an element of z/OS but can also be ordered as a separate product, 5655-G44, minimally V03.05.00.

Note: Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use IBM Workload Scheduler for z/OS.

IBM Workload Scheduler for z/OS installs in the z/OS (Z038) SREL.

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: Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REQs.

Figure 6. Target System Mandatory Installation Requisites

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5694-A01	z/OS	V01.13.0 or higher	N/A	No

Note: Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

Conditional installation requisites identify products that are *not* required for successful installation of this product but can resolve such things as certain warning messages at installation time. These products are specified as IF REQs.

IBM Workload Scheduler for z/OS has no conditional installation requisites.

5.2.2.2 Operational Requisites: Operational requisites are products that are required and *must* be present on the system or products that are not required but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions. These products are specified as PREs or REQs.

IBM Workload Scheduler for z/OS has no mandatory operational requisites.

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions. These products are specified as IF REQs.

IBM Workload Scheduler for z/OS has no conditional operational requisites.

5.2.2.3 Toleration/Coexistence Requisites: Toleration/coexistence requisites identify products that must be present on sharing systems. 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 environment at different time intervals.

IBM Workload Scheduler for z/OS has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites: Negative requisites identify products that must *not* be installed on the same system as this product.

IBM Workload Scheduler for z/OS has no negative requisites.

5.2.3 DASD Storage Requirements

IBM Workload Scheduler for z/OS libraries can reside on all supported DASD types.

Figure 7 on page 16 lists the total space that is required for each type of library.

<i>Figure 7. Total DASD Space Required by IBM Workload Scheduler for z/OS</i>		
Library Type	Total Space Required in 3390 Trks	File System Description
Target	4806	
Distribution	5709	
File System(s)	8000	

Notes:

1. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization. For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from the performance and DASD utilization perspective.
2. Abbreviations used for data set types are shown as follows.

- U** Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.
- S** Shared data set, allocated by this product and used by this product and other products. To determine the correct storage needed for this data set, add the storage size given in this table to those given in 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 other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in 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.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether 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 about the names and sizes of the required data sets, see 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 24.

3. Abbreviations used for the file system path type are as follows.

- N** New path, created by this product.

- X** Path created by this product, but might 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 can be changed.
- The default block size of the data set can be changed.
- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

- These data sets can be SMS-managed, but they are not required to be SMS-managed.
- These data sets are not required to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

6. All target libraries that are listed and contain load modules have the following attributes:

- These data sets can be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLIST.
- These data sets are not required to be APF-authorized.

The following figures describe the target and distribution libraries and file system paths required to install IBM Workload Scheduler for z/OS. The storage requirements of IBM Workload Scheduler for z/OS must be added to the storage required by other programs that have data in the same library or path.

Note: Use the data in these tables to determine 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.

<i>Figure 8 (Page 1 of 2). Storage Requirements for IBM Workload Scheduler for z/OS Target Libraries</i>								
Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C O M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SEQQLMD0	LMOD	ANY	U	PDS	U	0	1400	160
SEQQMISC	Data	ANY	U	PDS	FB	80	200	50
SEQQCLIB	CLIST	ANY	U	PDS	FB	80	30	2
SEQQDATA	Data	ANY	U	PDS	VB	6156	3	3
SEQQMAC0	Macro	ANY	U	PDS	FB	80	30	4
SEQQMSG0	Message	ANY	U	PDS	FB	80	500	120
SEQQPNL0	Panel	ANY	U	PDS	FB	80	60	8
SEQQSAMP	Sample	ANY	U	PDS	FB	80	200	30
SEQQWAPL	Sample	ANY	U	PDS	FB	80	200	30

Figure 8 (Page 2 of 2). Storage Requirements for IBM Workload Scheduler for z/OS Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C O R D M	L R E C O R D M	No. of 3390 Trks	No. of DIR Blks
SEQQSKL0	Skeleton	ANY	U	PDS	FB	80	30	8
SEQQTBL0	Table	ANY	U	PDS	FB	80	3	3
SEQQPENU	Panel	ANY	U	PDS	FB	80	2000	200
SEQQGENU	Advanced ISPF panels	ANY	U	PDS	FB	80	130	70
SEQQLENU	Advanced ISPF panel templates	ANY	U	PDS	FB	80	20	70

Figure 9 (Page 1 of 2). IBM Workload Scheduler for z/OS File System Paths

DDNAME	T Y P E	Path Name
SEQQ0001	N	/usr/lpp/TWS/V9R3M0/bin/IBM
SEQQ0002	N	/usr/lpp/TWS/V9R3M0/catalog/C/IBM
SEQQ0003	N	/usr/lpp/TWS/V9R3M0/codeset/IBM
SEQQ0004	N	/usr/lpp/TWS/V9R3M0/config/IBM
SEQQ0005	N	/usr/lpp/TWS/V9R3M0/zoneinfo/IBM
SEQQ0006	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Africa/IBM
SEQQ0007	N	/usr/lpp/TWS/V9R3M0/zoneinfo/America/IBM
SEQQ0008	N	/usr/lpp/TWS/V9R3M0/zoneinfo/America/Indiana/IBM
SEQQ0009	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Antarctica/IBM
SEQQ0010	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Arctic/IBM
SEQQ0011	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Asia/IBM
SEQQ0012	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Atlantic/IBM
SEQQ0013	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Australia/IBM
SEQQ0014	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Brazil/IBM
SEQQ0015	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Canada/IBM
SEQQ0016	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Chile/IBM

Figure 9 (Page 2 of 2). IBM Workload Scheduler for z/OS File System Paths

DDNAME	T Y P E	Path Name
SEQQ0017	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Etc/IBM
SEQQ0018	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Europe/IBM
SEQQ0019	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Indian/IBM
SEQQ0020	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Mexico/IBM
SEQQ0021	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Mideast/IBM
SEQQ0022	N	/usr/lpp/TWS/V9R3M0/zoneinfo/Pacific/IBM
SEQQ0023	N	/usr/lpp/TWS/V9R3M0/zoneinfo/SystemV/IBM
SEQQ0024	N	/usr/lpp/TWS/V9R3M0/zoneinfo/US/IBM
SEQQ0025	N	/usr/lpp/TWS/V9R3M0/zoneinfo/America/ Argentina/IBM
SEQQ0026	N	/usr/lpp/TWS/V9R3M0/zoneinfo/America/ Kentucky/IBM
SEQQ0027	N	/usr/lpp/TWS/V9R3M0/zoneinfo/America/ North_Dakota/IBM
SEQQ0028	N	/usr/lpp/TWS/V9R3M0/apps/ applicationJobPlugins/IBM
SEQQ0029	N	/usr/lpp/TWS/V9R3M0/apps/IBM
SEQQ0030	N	/usr/lpp/TWS/V9R3M0/scripts/IBM
SEQQ0031	N	/usr/lpp/TWS/V9R3M0/IBM

Figure 10 (Page 1 of 2). Storage Requirements for IBM Workload Scheduler for z/OS Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AEQQMOD0	U	PDS	U	0	2300	500
AEQQMISC	U	PDS	FB	80	200	50
AEQQCLIB	U	PDS	FB	80	30	2
AEQQDATA	U	PDS	VB	6156	6	6
AEQQMAC0	U	PDS	FB	80	30	4
AEQQMSG0	U	PDS	FB	80	500	120
AEQQPNL0	U	PDS	FB	80	60	8

Figure 10 (Page 2 of 2). Storage Requirements for IBM Workload Scheduler for z/OS Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AEQQSAMP	U	PDS	FB	80	200	30
AEQQWAPL	U	PDS	FB	80	200	30
AEQQSKL0	U	PDS	FB	80	30	8
AEQQTBLO	U	PDS	FB	80	3	3
AEQQPENU	U	PDS	FB	80	2000	200
AEQQGENU	U	PDS	FB	80	130	70
AEQQLENU	U	PDS	FB	80	20	70
AEQQHFS0	U	PDS	VB	30000	8000	100

5.3 FMIDs Deleted

Installing IBM Workload Scheduler for z/OS might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install IBM Workload Scheduler for z/OS into separate SMP/E target and distribution zones.

Note: These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, use the SMP/E REJECT NOFMID DELETEFMID command. See the SMP/E Commands book for details.

5.4 Special Considerations

IBM Workload Scheduler 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 to activate the functions of IBM Workload Scheduler for z/OS.

Please note the following points:

- If you want to install IBM Workload Scheduler 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. Additionally, to assist you in doing this, IBM has provided samples to help you create an SMP/E environment at the following url:

<http://www.ibm.com/support/docview.wss?rs=660&context=SSZJDU&uid=swg21066230>

- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing IBM Workload Scheduler for z/OS

6.1.1 SMP/E Considerations for Installing IBM Workload Scheduler for z/OS

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of IBM Workload Scheduler for z/OS.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 11. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

<i>Figure 11. SMP/E Options Subentry Values</i>		
Subentry	Value	Comment
DSSPACE	400,400,400	Space allocation for temporary libraries
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 SMP/E CALLLIBS Processing

IBM Workload Scheduler for z/OS uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When IBM Workload Scheduler for z/OS is installed, ensure that DDDEFs exist for the following libraries:

- MACLIB
- SCEELKED
- CSSLIB
- SEZACMTX

Note: CALLLIBS uses the previous DDDEFs only to resolve the link-edit for IBM Workload Scheduler for z/OS. These data sets are not updated during the installation of IBM Workload Scheduler for z/OS.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install IBM Workload Scheduler for z/OS:

Figure 12. Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
EQQRECVE	RECEIVE	Sample RECEIVE job	IBM.HWSZ930.F3
EQQALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HWSZ930.F3
EQQISMKD	MKDIR	Sample job to invoke the supplied EQQMKDIR EXEC to allocate file system paths	IBM.HWSZ930.F3
EQQDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HWSZ930.F3
EQQAPPLE	APPLY	Sample APPLY job	IBM.HWSZ930.F3
EQQACPTTE	ACCEPT	Sample ACCEPT job	IBM.HWSZ930.F3

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.5, “Perform SMP/E RECEIVE” on page 23) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 12 to find the appropriate relfile data set.

You can also copy the sample installation jobs from the tape or product files by submitting the following job. Depending on your distribution medium, use either the //TAPEIN or the //FILEIN DD statement and comment out or delete the other statement. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

```

//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN DD DSN=IBM.HWSZ930.F3,UNIT=tunit,
// VOL=SER=volser,LABEL=(x,SL),
// DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.HWSZ930.F3,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jcl-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(15,10,15))
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY INDD=xxxxIN,OUTDD=OUT
S M=EQQDDDEF
S M=EQQALLOC
S M=EQQISMKD
S M=EQQMkdir
S M=EQQRECVE
S M=EQQAPPLE
S M=EQQACPTE
/*

```

See the following information to update the statements in the previous sample:

TAPEIN:

tunit is the unit value that matches the product package.

volser is the volume serial that matches the product package.

x is the tape file number that indicates the location of the data set name on the tape.

See the documentation that is provided by CBPDO for the location of IBM.fmid.Fy on the tape.

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 are stored.

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

SYSIN:

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

6.1.5 Perform SMP/E RECEIVE

If you have obtained IBM Workload Scheduler for z/OS as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IBM Workload Scheduler for z/OS FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit sample job EQQRECVE to perform the SMP/E RECEIVE for IBM Workload Scheduler for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=00

6.1.6 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job EQQALLOC to allocate the SMP/E target and distribution libraries for IBM Workload Scheduler for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=00

6.1.7 Allocate File System Paths

The target system HFS or zFS data set must be mounted on the driving system when running the sample EQQISMKD job since the job will create paths in the HFS or zFS.

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

If you plan to install IBM Workload Scheduler for z/OS into a new HFS or zFS file system, you must create the mountpoint and mount the new file system to the driving system for IBM Workload Scheduler for z/OS.

The recommended mountpoint is */usr/lpp/TWS*.

Edit and submit sample job EQQISMKD to allocate the HFS or zFS paths for IBM Workload Scheduler for z/OS. Consult the instructions in the sample job for more information.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

Expected Return Codes and Messages: RC=00

6.1.8 Create DDDEF Entries

Edit and submit sample job EQQDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IBM Workload Scheduler for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=00

6.1.9 Perform SMP/E APPLY

Ensure that you have the latest HOLDDATA; then edit and submit sample job EQQAPPLE to perform an SMP/E APPLY CHECK for IBM Workload Scheduler for z/OS. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. The SMP/E root cause analysis identifies the cause only of *errors* and not of *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

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

Expected Return Codes and Messages from APPLY CHECK: RC=00

Expected Return Codes and Messages from APPLY: RC=00 or RC=04

The APPLY step may end with *RC=04* depending on the service level of your Operating System. The binder may issue several warning messages like IEW2454W, IEW2646W and IEW2651W, while SMP/E may issue messages GIM23903W or GIM23913W. This is normal and can be ignored.

Note

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

6.1.10 Perform SMP/E ACCEPT

Edit and submit sample job EQQACPTTE to perform an SMP/E ACCEPT CHECK for IBM Workload Scheduler for z/OS. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. The SMP/E root cause analysis identifies the cause of *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

After you take actions that are 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 accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

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

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

Expected Return Codes and Messages from ACCEPT: RC=00

6.2 Activating IBM Workload Scheduler for z/OS

6.2.1 File System Execution

If you mount the file system in which you have installed IBM Workload Scheduler for z/OS in read-only mode during execution, then you do not have to take further actions to activate IBM Workload Scheduler for z/OS.

6.3 Product Customization

The publication *IWS for z/OS Planning and Installation* contains the necessary information to customize and use IBM Workload Scheduler for z/OS.

7.0 Notices

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