IBM

Program Directory for

WebSphere Studio Enterprise Developer Options for z/OS

Version 5 Release 0, Modification Level 0

Program Number 5724-B67

FMID HEDS500

for Use with
OS/390 Version 2 Release 10
z/OS Version 1 Release 1 or later

Document Date: November, 2005

GI10-3242-03

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

Contents

Figures

Notices

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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 IBM WebSphere Studio Enterprise Developer Options for z/OS. See the Description section for more details on the components included in IBM WebSphere Studio Enterprise Developer Options for z/OS. If you are installing this product to support the preparation and execution of COBOL programs generated using Enterprise Generation Language within WebSphere Studio Enterprise Developer, also see the program directory for the IBM Enterprise Developer Server for z/OS V5.0.0 product (Program No: 5655-I57/FMID: H284500).

This publication refers to IBM WebSphere Studio Enterprise Developer Options for z/OS as Enterprise Developer Options for z/OS. You should read all of this program directory before installing the program and then keep it for future reference.

The program directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic and optional program materials and documentation for Enterprise Developer Options for z/OS.

- 3.0, "Program Support" on page 7 describes the IBM support available for Enterprise Developer Options for z/OS.

- 4.0, "Program and Service Level Information" on page 8 lists the APARs (program level) and PTFs (service level) incorporated into Enterprise Developer Options for z/OS.

- 5.0, "Installation Requirements and Considerations" on page 9 identifies the resources and considerations for installing and using Enterprise Developer Options for z/OS.

- 6.0, "Installation Instructions" on page 16 provides detailed installation instructions for Enterprise Developer Options for z/OS. It also describes the procedures for activating the functions of Enterprise Developer Options for z/OS, or refers to appropriate publications.

Before installing Enterprise Developer Options for z/OS, read 3.2, "Preventive Service Planning" on page 7. This section tells you how to find any updates to the information and procedures in this program directory.

1.1 Enterprise Developer Options for z/OS Description

The IBM WebSphere Studio family of products provides a set of program development tools that provide definition, test, generation, and runtime support for both web-based and traditional screen based programs. This includes COBOL, PL/I, Enterprise Generation Language, Java, and HTML technologies.

IBM WebSphere Studio Enterprise Developer V5.0 brings the power of Java 2 Platform Enterprise Edition (J2EE), Rapid Application Development (RAD), and robust team support to diverse enterprise application development organizations. This significantly lowers the technological requirements of entry to modern

application development and architecture. It embraces a component reuse, model-based development paradigm, to provide the rapid construction of well structured e-business systems delivered to WebSphere, as well as integrating traditional transactional environments (IBM CICS, IBM IMS).

IBM WebSphere Studio Enterprise Developer Options for z/OS provides multiple components to support the development and execution of programs when using IBM WebSphere Studio Enterprise Developer (Enterprise Developer) for development. The list of components is as follows:

1. The runtime libraries required by Java programs generated using the Enterprise Generation Language(EGL) feature within Enterprise Developer.

   Note:

   - This statement does not pertain to 5.1.1 Client

2. A 390 build server used for building native COBOL and PL/I programs developed using the z/OS application development Tools and COBOL programs generated using Enterprise Generation Language.

3. The sample JCL build scripts used by the build server to build COBOL programs generated using Enterprise Generation Language COBOL programs.

4. The modules necessary for Enterprise Developer to interface with SCLM.

5. The modules necessary for the z/OS Application Development tools for COBOL and PL/I development to receive error feedback when doing remote project builds.

This program directory documents the installation and activation considerations for IBM WebSphere Studio Enterprise Developer Options for z/OS (Program No: 5724-B67/FMID: HEDS500).

IBM Enterprise Developer Server for z/OS V5.0.0 (Program No: 5655-I57/ FMID: H284500) provides the runtime libraries and other additional materials required for the execution and preparation of COBOL programs generated using Enterprise Generation Language. This product will also provide the necessary runtime and preparation libraries for all programs generated using VisualAge Generator V4.5. For more information on the IBM Enterprise Developer Server for z/OS (Program No: 5655-I57/FMID: H284500), see its associated program directory.

For more information about IBM WebSphere Studio Enterprise Developer V5.0, visit the following website: www-3.ibm.com/software/ad/studioedm/.

1.2 Enterprise Developer Options for z/OS FMIDs

Enterprise Developer Options for z/OS consists of the following FMIDs:

HEDS500

2.0 Program Materials

An IBM program is identified by a program number. The program number for Enterprise Developer Options for z/OS is 5724-B67.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature codes, and are not required for the product to function.

2.1 Basic Machine-Readable Material

The IBM WebSphere Studio Enterprise Developer Options for z/OS is distributed on a CD-ROM labeled "IBM WebSphere Studio Enterprise Developer Options for z/OS & FFS" which is included with IBM WebSphere Studio Enterprise Developer V5.0. The IBM WebSphere Studio Enterprise Developer Options for z/OS is provided on the CD-ROM in a format that can be uploaded to the OS/390, expanded into SMP/E RELFILE format, then installed using SMP/E. See the 6.0, "Installation Instructions" on page 16 for more information about how to install the program.

Figure 1 describes the file content of the CD-ROM.

Figure 2 on page 4 describes the file characteristics of the program files after they have been uploaded and received into files.

Figure 1. Basic Material: CD-ROM Contents		
Directory	**Name**	**Description**
HEDS500	IBM.HEDS500.SAMPLE.JCL.BIN	PDS containing sample jobs to allocate sequential data sets on the OS/390 that will be used on the upload of the compressed RELFILES and SMPMCS and for the SMP/E install.
HEDS500	IBM.HEDS500.F1.BIN	RELFILE in compressed form
HEDS500	IBM.HEDS500.F2.BIN	RELFILE in compressed form
HEDS500	IBM.HEDS500.F3.BIN	RELFILE in compressed form
HEDS500	IBM.HEDS500.F4.BIN	RELFILE in compressed form
HEDS500	IBM.HEDS500.SMPMCS	SMPMCS file

Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	6160
IBM.HEDS500.F1	PDS	FB	80	8800
IBM.HEDS500.F2	PDS	U	0	6144
IBM.HEDS500.F3	PDS	U	0	6144
IBM.HEDS500.F4	PDS	VB	151	27998

Figure 2. Program File Content

Notes:

1. The data set attributes in these tables should be used in the JCL of jobs reading the data sets, but since the data sets are in IEBCOPY unloaded format, their actual attributes may be different.

2. Some RELFILEs are identified as PDSEs. Ensure that SMPTLIB data sets are allocated as PDSEs.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Enterprise Developer Options for z/OS.

2.3 Program Publications

The following sections identify the basic and optional publications for Enterprise Developer Options for z/OS.

2.3.1 Basic Program Publications

The Enterprise Developer Server Guide for z/OS, Version 5.0.0 (SC31-6306) is available in softcopy format via download. This manual is useful with IBM WebSphere Studio Enterprise Developer Options for z/OS because it provides additional information about customizing and administering Enterprise Developer Server (used to prepare and execute programs generated with Enterprise Generation Language) in the following environments:

* z/OS UNIX System Services (USS)
* z/OS
* CICS

The Enterprise Developer Server Guide for z/OS is intended for system administrators and system programmers responsible for installing, maintaining, and administering Enterprise Developer Server. It provides information to complete the following tasks:

- Manage system requirements
- Manage file utilization and conflicts

The Enterprise Developer Server Guide for z/OS is also intended for use by the programmers responsible for preparing and running Enterprise Developer programs. It provides information on the following items:

- Outputs of the generation process
- How to prepare generated programs for running
- Error codes
- How to use Enterprise Developer Server utilities
- How to diagnose and report problems

This publication is available in PDF format and accessible from the Product Web site at http://www-3.ibm.com/software/ad/studioedm/library/ or from the IBM Publications center at elink.ibmlink.ibm.com/applications/public/applications/publications/ cgibin/pbi.cgi

This publication is also available in BookManager format and accessible from the Product Web site at http://www-3.ibm.com/software/ad/studioedm/library/

There are no basic licensed program publications for Enterprise Developer Options for z/OS.

2.3.2 Optional Program Publications

There are no optional publications provided for Enterprise Developer Options for z/OS.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Enterprise Developer Options for z/OS.

2.5 Publications Useful During Installation

The publications listed in Figure 3 may be useful during the installation of Enterprise Developer Options for z/OS. To order copies, contact your IBM representative or visit the IBM Publications Center at elink.ibmlink.ibm.com/applications/public/applications/publications/ cgibin/pbi.cgi on the Internet.

Figure 3 (Page 1 of 2). Publications Useful During Installation	
Publication Title	**Form Number**
z/OS SMP/E User's Guide	SA22-7773
z/OS SMP/E Commands	SA22-7771
z/OS SMP/E Reference	SA22-7772

Figure 3 (Page 2 of 2). Publications Useful During Installation	
Publication Title	**Form Number**
z/OS SMP/E Messages, Codes, and Diagnosis	GA22-7770

3.0 Program Support

This section describes the IBM support available for Enterprise Developer Options for z/OS.

3.1 Program Services

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

3.2 Preventive Service Planning

Before installing Enterprise Developer Options for z/OS, you should review the current Preventive Service Planning (PSP) information. Contact the IBM Support Center or use S/390 SoftwareXcel to obtain the current PSP bucket.

For access to RETAIN, visit http://www.ibmlink.ibm.com/ on the Internet.

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 Enterprise Developer Options for z/OS are:

Figure 4. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
WSED500	HEDS500	IBM WebSphere Studio Enterprise Developer Options for z/OS

3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 5 identifies the component IDs (COMPID) for Enterprise Developer Options for z/OS.

Figure 5. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
HEDS500	5724B6723	Enterprise Developer Options for z/OS	500

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of Enterprise Developer Options for z/OS. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated.

4.1 Program Level Information

No APARs have been incorporated into Enterprise Developer Options for z/OS.

4.2 Service Level Information

No PTFs against this release of Enterprise Developer Options for z/OS have been incorporated into the product tape.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Enterprise Developer Options for z/OS. The following terminology is used:

- *Driving system*: the system used to install the program.

- *Target system*: the system on which the program is installed.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.

- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install Enterprise Developer Options for z/OS.

5.1.1 Machine Requirements

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

Figure 6. Driving System Software Requirements	
Program Number	**Product Name and Minimum VRM/Service Level**
5655-G44	System Modification Program/Extended Version 3 Release 1 or higher
Any **one** of the following:	
5647-A01	OS/390 Version 2 Release 10
5694-A01	z/OS Version 1 Release 1 or higher

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Enterprise Developer Options for z/OS.

Enterprise Developer Options for z/OS installs in the MVS (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 Mandatory Requisites

A mandatory requisite is defined as a product that is required without exception; this product either **will not install** or **will not function** unless this requisite is met. This includes products that are specified as REQs or PREs.

Figure 7. Mandatory Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following:	
5647-A01	OS/390 V2.10 Including following elements of OS/390: Binder High Level Assembler Interactive System Productivity Facility IBM Language Environment (with PTFs UQ69712,UQ69970 & UQ6971 (Japanese only)) IBM HTTP Server Unix System Services HFS RACF IP Services component of IBM Communications Server
5694-A01	z/OS V1.1 or higher Including following elements of z/OS: Binder High Level Assembler Interactive System Productivity Facility IBM Language Environment (with PTFs UQ69712,UQ69970 & UQ6971 (Japanese only)) IBM HTTP Server Unix System Services HFS RACF IP Services component of IBM Communications Server

Notes:

1. For z/OS 1.3 Language Environment requires PTFs UQ69976, UQ69974 & UQ69975 (Japanese only)

2. For z/OS 1.4 Language Environment requires PTFs UQ70416, UQ71039 & UQ71040 (Japanese only)

5.2.2.2 Functional Requisites

A functional requisite is defined as a product that is **not** required for the successful installation of this product or for the basic function of the product, but **is** needed at run time for a specific function of this product to work. This includes products that are specified as IF REQs.

Figure 8 (Page 1 of 2). Functional Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5655-I57	Enterprise Developer Server for z/OS V5.0	Enterprise Generation Language COBOL Runtime
5655-D35	IBM Developer Kit of OS/390 Java 2 Technology Edition V1.3 With PTF for APAR PQ44234	Java
Unicode	Support for Unicode is integrated into z/OS starting with V1.2. Support for Unicode for OS/390 V2.10 or z/OS V1.1 is available for web download. See Note following this figure for the web site.	Needed to support: z/OS XML converter
5655-H32	IBM Debug Tool for z/OS and OS/390 V3.1	For remote COBOL and PL/I debug Also provided with COBOL and PL/I Full Function Support See the Notes following this figure for the web site with more information.
Any **one** of the following:		
5655-147	CICS Transaction Server V1.3 or higher	CICS Transaction Support
5697-E93	CICS Transaction Server for z/OS V2.2	Integrated CICS Translator Needed to Support: Error Feedback Function
Any **one** of the following:		
5645-DB2	DB2 UDB for OS/390 V6.1 or higher	Relational Database
5675-DB2	DB2 UDB for OS/390 V7.1 or higher	Relational Database
Any **one** of the following:		
5655-158	IMS/ESA V6.1 or higher	Database, Data Communications
5655-B01	IMS/ESA V7.1 or higher	Database, Data Communications
Any **one** of the following:		

Figure 8 (Page 2 of 2). Functional Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5695-014	REXX/370 Library V1.3	REXX Library
5695-014	REXX/370 Alternate Library (FMID HWJ9133)	REXX Alternate Library
Any **one** of the following:		
5648-A25	IBM COBOL for OS/390 and VM V2.1	COBOL (minimum requirement)
5655-G53	IBM Enterprise COBOL for z/OS V3.1 or higher	Needed to Support: Error Feedback when using integrated DB2 Co-processor or integrated CICS translator to build COBOL Programs with EXEC SQL or EXEC CICS statements z/OS XML Converter Unicode
5655-G53	IBM Enterprise COBOL for z/OS V3.2	Full Function Offering For remote debug support
Any **one** of the following:		
5688-235	PL/I for MVS and VM V1.1	PL/I
5655-B22	VisualAge PL/I for OS/390 V2.2	Full Function Offering
5655-H31	IBM Enterprise PL/I for z/OS & OS/390 V3.1 or higher PTFs UQ67143 & UQ68741 Required	Required to Support: Error Feedback Function
5655-H31	IBM Enterprise PL/I for z/OS & OS/390 V3.2	Full Function Support For remote debug support

Notes:

1. The web site to download UNICODE support for OS/390 V2.10 or z/OS V1.1 is: www6.software.ibm.com/dl/os390/unicodespt-p

2. The web site for more information on the IBM Debug tool is: www.software.ibm.com/ad/debugtool

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.

Enterprise Developer Options for z/OS has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites

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

Enterprise Developer Options for z/OS has no negative requisites.

5.2.3 DASD Storage Requirements

Enterprise Developer Options for z/OS libraries can reside on all supported DASD types.

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

Figure 9. Total DASD Space Required by Enterprise Developer Options for z/OS	
Library Type	**Total Space Required**
Target	39 tracks (3390)
Distribution	83 tracks (3390)
HFS	30 tracks (3390)

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, please refer to 6.1.10, "Allocate SMP/E Target and Distribution Libraries" on page 22.

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 merged with another data set that has equivalent characteristics
- The data set may be either a PDS or a PDSE

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. All target libraries listed which contain load modules have the following attributes:

- The data set may be in the LPA
- It is not required for the data set to be in the LPA
- The data set may be in the LNKLST
- It is not required for the target data set to be APF authorized. However, for the functions to execute, either the target data set will need to be APF authorized or the load modules will need to be copied to an APF authorized data set.

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

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

Figure 10. Storage Requirements for Enterprise Developer Options for z/OS Target Libraries								
Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SCCULOAD	LMOD	ANY	U	PDS	U	0	33	4
SCCUSAMP	Sample	ANY	U	PDSE	FB	80	6	n/a

Figure 11. Enterprise Developer Options for z/OS HFS Paths		
DDNAME	TYPE	Path Name
SCCUHFS	N	/usr/lpp/EnterpriseDeveloper/BuildServer/IBM/
SCCUHFS1	N	/usr/lpp/EnterpriseDeveloper/EGLJava/IBM/
SCCUHFS2	N	/usr/lpp/EnterpriseDeveloper/SCLM/IBM/

Figure 12. Storage Requirements for Enterprise Developer Options for z/OS Distribution Libraries						
Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ACCUHFS	U	PDSE	VB	151	26	n/a
ACCUMOD	U	PDS	U	0	43	15
ACCUMOD2	U	PDSE	U	0	34	n/a
ACCUSAMP	U	PDS	FB	80	10	5

5.3 FMIDs Deleted

Installing Enterprise Developer Options for z/OS does not delete other FMIDs.

5.4 Special Considerations

Enterprise Developer Options 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 Enterprise Developer Options for z/OS.

Please note the following:

- If you want to install Enterprise Developer Options for z/OS into its own SMP/E environment, 2 jobs have been supplied to create and prime an SMP/E CSI. The jobs are:

  - CCUASMPA, allocate and prime a CSI for SMP/E

  - CCUASMPI, allocate SMP/E work datasets and define DDDEFs

  If you use these jobs run CCUASMPA first followed by CCUASMPI. After these jobs have completed the CSI is ready for you to proceed with the installation of Enterprise Developer Options for z/OS.

- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.

- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing Enterprise Developer Options for z/OS

6.1.1 SMP/E Considerations for Installing Enterprise Developer Options for z/OS

This release of Enterprise Developer Options for z/OS 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.

If you have previously installed the Early Availability release of Enterprise Developer Options for z/OS special consideration are required. The general availability release of Enterprise Developer Options for z/OS uses the same dataset names and directory paths, as well as the same parts. Because of this you should install this in a different SMP/E environment and delete the Early Availability release of Enterprise Developer Options for z/OS

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 13. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

Figure 13. SMP/E Options Subentry Values		
SUB-ENTRY	**Value**	**Comment**
DSSPACE	(600,200,100)	The space allocation for SMPTLIB datasets
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 Overview of the installation steps

Here are the steps required to install IBM WebSphere Studio Enterprise Developer Options for z/OS.

1. Upload sample JCL from the CD-ROM

2. Expand the sample JCL

3. Run allocate data sets to FTP into

4. Upload the compressed RELFILES and SMPMCS from the CD-ROM

5. Expand the RELFILEs

6. (optional) Allocate and initialize the SMP/E data sets. Sample jobs to allocate SMP/E CSI and work datasets are provide if you choose to install Enterprise Developer Options for z/OS in it's own CSI.

    a. CCUASMPA

    b. CCUASMPI

7. Setup SMP/E environment

8. Perform SMP/E RECEIVE

9. Allocate target and distribution libraries

10. Define HFS paths

11. Create DDDEF entries

12. Perform SMP/E APPLY

13. Perform SMP/E ACCEPT

6.1.4 Upload the Sample JCL from the CD-ROM

On the CD-ROM, there is a file containing the sample JCL. This sample JCL contains a member that will allocate the sequential data sets on the OS/390 for the three compressed RELFILEs and SMPMCS contained on the CD-ROM and other members to perform the SMP/E processing. Perform the following steps to upload it from the CD-ROM to the OS/390:

1. Allocate a data set on z/OS to use as the target of the upload. You can do this by submitting the job below or by creating a dataset with these characteristics. Add a job card and modify the parameters to meet your site's requirements before submitting. **hlq** will be the high level qualifier you choose to use for this dataset.

```
//ALLOC1    EXEC   PGM=IEFBR14
//*
//FTPALLO  DD  DSN=hlq.IBM.HEDS500.SAMPLE.JCL.BIN,
//          DISP=(NEW,CATLG,DELETE),
//          DSORG=PS,
//          RECFM=FB,
//          LRECL=80,
//          BLKSIZE=6160,
//          SPACE=(TRK,(2,1)),
//          UNIT=SYSALLDA
//*        VOL=SER=&TVOL1
```

2. Upload the sample jcl file in binary format from the CD-ROM to the OS/390 data set. If the CD-ROM is attached to a Windows NT system, you can use FTP from a command prompt to upload the file. In the sample dialog shown below, commands or other information entered by the user are in bold, and the following values are assumed:

Figure 14. User Entered Values	
User enters:	**Values**
mvsaddr	TCP/IP address or hostname of the OS/390 system
tsouid	Your TSO user ID
tsopw	Your TSO password
d:	Your CD-ROM drive
hlq	High-level qualifier you used for the data set you allocated in the job above

```
C:\>ftp mvsaddr
Connected to mvsaddr.
220-FTPD1 IBM FTP CS V1R2 at mvsaddr, 07:18:16 on 2003-02-19.
220 Connection will close if idle for more than 60 minutes.

User (mvsaddr:(none)): tsouid

331 Send password please.
Password: tsopw
230 tsouid is logged on.  Working directory is "tsouid.".

ftp> cd ..
250 " "is the working directory name prefix.

ftp> cd hlq
250 "hlq." is the working directory name prefix.

ftp> binary
200 Representation type is Image
```

```
ftp> put d:\heds500\ibm.heds500.sample.jcl.bin
200 Port request OK.
125 Storing data set hlq.HEDS500.SAMPLE.JCL.BIN
250 Transfer completed successfully.
72320 bytes sent in 0.34 seconds (24.63 Kbytes/sec)

ftp> quit
221 Quit command received. Goodbye.
```

3. Expand the sample jcl file by using the TSO command:

```
receive inda('hlq.ibm.heds500.sample.jcl.bin')
```

This will create a dataset named **hlq**.HEDS500.SAMPLE.JCL with the following members:

- CCUACCEP
- CCUADDEF
- CCUALLOC
- CCUAMKD
- CCUAPPLY
- CCUAREC
- CCUASMPA
- CCUASMPI
- CCUA5JCL

6.1.5 Upload the compressed RELFILES and SMPMCS from the CD-ROM

1. Edit and submit sample job **CCUA5JCL** in the **hlq**.HEDS500.SAMPLE.JCL dataset to allocate data sets on z/OS to be used during the upload process. Use the instructions in the sample job for information on changes required.

2. Upload the files in binary format from the CD-ROM to the z/OS data set. If the CD-ROM is attached to a Windows NT system, you can use FTP from a command prompt to upload the files:

```
C:\>ftp mvsaddr
Connected to mvsaddr.
220-FTPD1 IBM FTP CS V1R2 at mvsaddr, 07:18:16 on 2003-02-19.
220 Connection will close if idle for more than 60 minutes.

User (mvsaddr:(none)): tsouid

331 Send password please.
Password: tsopw
230 tsouid is logged on.  Working directory is "tsouid.".
```

```
ftp> cd ..
250 " " is the working directory name prefix.

ftp> cd hlq
250 "hlq." is the working directory name prefix.

ftp> binary
200 Representation type is Image

ftp> prompt
Interactive mode Off.

ftp> mput d:\heds500\ibm.heds500.f*
200 Port request OK.
125 Storing data set hlq.IBM.HEDS500.F1.BIN
250 Transfer completed successfully.
226320 bytes sent in 0.39 seconds (499.90 Kbytes/sec)
200 Port request OK.
125 Storing data set hlq.IBM.HEDS500.F2.BIN
250 Transfer completed successfully.
1412320 bytes sent in 0.40 seconds (506.80 Kbytes/sec)
200 Port request OK.
125 Storing data set hlq.IBM.HEDS500.F3.BIN
250 Transfer completed successfully.
1120880 bytes sent in 0.42 seconds (1280000.00 Kbytes/sec)
200 Port request OK.
125 Storing data set hlq.IBM.HEDS500.F4.BIN
250 Transfer completed successfully.
682560 bytes sent in 0.42 seconds (1280000.00 Kbytes/sec)

ftp> put d:\heds500\ibm.heds500.smpmcs
200 Port request OK.
125 Storing data set hlq.IBM.HEDS500.SMPMCS
250 Transfer completed successfully.
21440 bytes sent in 0.00 seconds (3760000.00 Kbytes/sec)

ftp> quit
221 Quit command received. Goodbye.
```

6.1.6 Expand the RELFILEs

You can expand the RELFILEs by using the TSO receive command:

```
receive inda('hlq.ibm.heds500.f1.bin')
receive inda('hlq.ibm.heds500.f2.bin')
receive inda('hlq.ibm.heds500.f3.bin')
receive inda('hlq.ibm.heds500.f4.bin')
```

When prompted on the TSO receive commands, use the appropriate DSNAME from the list below:

```
DS('hlq.IBM.HEDS500.F1')
DS('hlq.IBM.HEDS500.F2')
DS('hlq.IBM.HEDS500.F3')
DS('hlq.IBM.HEDS500.F4')
```

6.1.7 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install Enterprise Developer Options for z/OS. The RELFILEs will be prefixed with the high level qualifier ("hlq" in table below) used when the files were "received" in the previous step. The jobs are contained in the sample JCL dataset **hlq**.IBM.HEDS500.SAMPLE.JCL that was uploaded.

Figure 15. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
CCUACCEP	ACCEPT	Sample ACCEPT job	hlq.IBM.HEDS500.F1
CCUADDEF	DDDEF	Sample job to define SMP/E DDDEFs	hlq.IBM.HEDS500.F1
CCUALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	hlq.IBM.HEDS500.F1
CCUAMKD	MKDIR	Sample job to invoke the supplied CCUMKDIR EXEC to allocate HFS paths	hlq.IBM.HEDS500.F1
CCUAPPLY	APPLY	Sample APPLY job	hlq.IBM.HEDS500.F1
CCUAREC	RECEIVE	Sample RECEIVE job	hlq.IBM.HEDS500.F1
CCUASMPA	SMP/E	Sample job to allocate and prime a CSI for SMP/E (optional)	hlq.IBM.HEDS500.F1
CCUASMPI	SMP/E	Sample job to allocate SMP/E work datasets and define DDDEFs (optional)	hlq.IBM.HEDS500.F1

You can also obtain a copy of the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the SMPTLIB (RELFILE) to a work data set for editing and submission. See Figure 15 to find the appropriate SMPTLIB (RELFILE) data set.

6.1.8 (optional) Allocate and initialize the SMP/E datasets.

Sample jobs to allocate SMP/E CSI and work datasets are provide if you choose to install Enterprise Developer Options for z/OS in it's own CSI.

1. CCUASMPA

2. CCUASMPI

Expected Return Codes and Messages: RC=0

6.1.9 Perform SMP/E RECEIVE

Edit and submit sample job CCUAREC to perform the SMP/E RECEIVE for Enterprise Developer Options for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.10 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job CCUALLOC to allocate the SMP/E target and distribution libraries for Enterprise Developer Options for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.11 Define HFS Paths

Edit and submit sample job CCUAMKD to allocate the HFS paths for Enterprise Developer Options for z/OS. Consult the instructions in the sample job for more information.

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

Expected Return Codes and Messages: RC=0

6.1.12 SMP/E CALLLIBS Processing

Enterprise Developer Options for z/OS uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When Enterprise Developer Options for z/OS is installed, ensure that DDDEF exists for the following library:

- SCEELKED for Language Environment (default: CEE.SCEELKED)

Notes:

1. The DDDEF above is used only to resolve the link-edit for Enterprise Developer Options for z/OS using CALLLIBS. This data set is not updated during the installation of Enterprise Developer Options for z/OS.

2. If the DDDEF for SCEELKED is not already defined in the target CSI, the supplied sample job CCUADDEF contains a step to create this DDDEF. Follow the instructions in the job to enable this step if needed.

6.1.13 Create DDDEF Entries

Edit and submit sample job CCUADDEF to create DDDEF entries for the SMP/E target and distribution libraries for Enterprise Developer Options for z/OS. Consult the instructions in the sample job for more information.

To satisfy the CALLLIBS needed for IBM Language Environment for MVS, a DDDEF for SCEELKED must be defined. This DDDEF is contained in the CCUADDEF job, but is commented out. If needed, uncomment out this step in the job.

Expected Return Codes and Messages: RC=0

6.1.14 Perform SMP/E APPLY

Edit and submit sample job CCUAPPLY to perform an SMP/E APPLY CHECK for Enterprise Developer Options 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 following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Once you have taken any actions 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 apply all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

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

Expected Return Codes and Messages from APPLY: RC=0 The following warning message(s) may be received:

```
IEW2609W 5104 SECTION xxxxxxxx USABILITY ATTRIBUTE OF NON-REUSABLE
CONFLICTS WITH REQUESTED USABILITY OF REENTRANT.
```

6.1.15 Perform SMP/E ACCEPT

Before you perform the SMP/E ACCEPT, you may want to do the steps documented in 6.2, "Activating Enterprise Developer Options for z/OS" on page 24.

Edit and submit sample job CCUACCEP to perform an SMP/E ACCEPT CHECK for Enterprise Developer Options 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 following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis

identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

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

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

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

Expected Return Codes and Messages from ACCEPT: RC=0

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will linkedit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

6.1.16 Cleaning Up Obsolete Data Sets, Paths, and DDDEFs

No cleanup needed.

6.2 Activating Enterprise Developer Options for z/OS

The publication *IBM WebSphere Developer for zSeries Host Configuration Guide - SC31-6930-00* contains the step-by-step procedures to activate the functions of Enterprise Developer Options for z/OS.

Reader's Comments

Program Directory for IBM WebSphere Studio Enterprise Developer Options for z/OS November, 2005

You may use this form to comment about this document, its organization, or subject matter with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

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

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

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

How did you order this product?

___ CBPDO
___ CustomPac
___ ServerPac
___ Independent
___ Other

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

___ Yes
___ No

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

___ Yes

__   No

If yes, how many years? __

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

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