IBM

Program Directory for

IBM Rational Developer for System z

V9.0.0

Program Number 5724-T07

FMID HHOP900

for Use with
z/OS Version 1 Release 8 or later

Document Date: June 2013

GI11-8298-06

> **Note**
>
> Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 26.

Contents

Figures

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 Rational Developer for System z. This publication refers to IBM Rational Developer for System z as Developer for System z.

The Program Directory contains the following sections:

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

- 3.0, "Program Support" on page 5 describes the IBM support available for Developer for System z.

- 4.0, "Program and Service Level Information" on page 7 lists the APARs (program level) and PTFs (service level) that have been incorporated into Developer for System z.

- 5.0, "Installation Requirements and Considerations" on page 8 identifies the resources and considerations that are required for installing and using Developer for System z.

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

1.1 Developer for System z Description

With IBM Rational Developer for System z, you can:

- Accelerate the development of
    - Dynamic Web applications including Java and J2EE
    - Traditional COBOL, PL/I and assembler applications
    - Web services to integrate these applications together
- Deploy to multiple runtimes including WebSphere Application Server, CICS, IMS, Batch and DB2 via Stored Procedures
- Debug applications executing in multiple runtimes including WebSphere Application Server, CICS, IMS, Batch, and DB2 via Stored Procedures
- Adapt and extend the development environment with a wide range of plug-ins, such as change management
- Create and test portlets in a visual environment
- Visualize and graphically edit J2EE code through the UML Visual Edit
- Detect performance issues early with performance profiling and trace tools for WebSphere applications
- Generate Enterprise COBOL or PL/I XML adapters for CICS and IMS Web service-based applications

1

- Generate WSDL and Java beans used to test and deploy Web services
- Create, test, and deploy microflows into the CICS Service Flow Runtime using the CICS Service Flow Modeler
- Browse and edit VSAM data directly from the workstation using File Manager Integration
- Open Fault Analyzer problem reports for diagnosing production failures
- Increase application understanding with a workstation-based dependency and impact analysis tool
- Easily deploy CICS applications and resources
- Create COBOL applications from UML
- Generate VSAM browse and update code
- Use CICS TS Explorer for viewing and managing CICS resources

1.2 Developer for System z FMIDs

Developer for System z consists of the following FMIDs:

HHOP900

2.0 Program Materials

An IBM program is identified by a program number. The program number for Developer for System z is 5724-T07.

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 Developer for System z. 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 Compact Disc (CDs). This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 16 for more information about how to install the program.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Developer for System z.

2.3 Program Publications

The following sections identify the basic and optional publications for Developer for System z.

2.3.1 Basic Program Publications

Figure 1 identifies the basic unlicensed program publications for Developer for System z. All publications are included on CD in PDF format when you order the basic materials for Developer for System z.

Figure 1 (Page 1 of 2). Basic Material: Unlicensed Publications	
Publication Title	**Form Number**
IBM Rational Developer for System z Host Configuration Guide	SC23-7658
IBM Rational Developer for System z Host Configuration Reference	SC14-7290
IBM Rational Developer for System z Host Configuration Quick Start Guide	GI11-9201
IBM Rational Developer for System z Host Configuration Utility Guide	SC14-7282
IBM Rational Developer for System z SCLM Developer Toolkit Administrator	SC23-9801

Figure 1 (Page 2 of 2). Basic Material: Unlicensed Publications	
Publication Title	**Form Number**
IBM Rational Developer for System z Prerequisites Guide	SC23-7659
IBM Rational Developer for System z Messages and Codes	SC14-7497
IBM Rational Developer for System z Answers to common host configuration and maintenance issues	SC14-7373

These publications are also available in the Developer for System z online library at http://www-01.ibm.com/support/docview.wss?uid=swg27038517.

No basic licensed program publications are provided for Developer for System z.

2.3.2 Optional Program Publications

No optional publications are provided for Developer for System z.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Developer for System z.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 2 during the installation of Developer for System z. To order copies, contact your IBM representative or visit the IBM Publications Center at http://www.ibm.com/shop/publications/order.

Figure 2. Publications Useful During Installation	
Publication Title	**Form Number**
IBM SMP/E for z/OS User's Guide	SA22-7773
IBM SMP/E for z/OS Commands	SA22-7771
IBM SMP/E for z/OS Reference	SA22-7772
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA22-7770

3.0 Program Support

This section describes the IBM support available for Developer for System z. The service number for Developer for System z is 0500412.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install Developer for System z, make sure that you have reviewed the current Preventive Service Planning (PSP) information. The PSP Buckets maintain current lists (which have been identified since the package was created) of any recommended or required service for the installation of this package. This service includes software PSP information that contains HIPER and required PTFs against the base release.

For program support, access the Software Support Web site at http://www.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 Developer for System z are shown as follows:

Figure 3. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
5724T07	HHOP900	Developer for System z

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 identifies the component IDs (COMPID) for Developer for System z.

Figure 4. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
HHOP900	5724T0723	Developer for System z	900

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Developer for System z. 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

No APARs have been incorporated into Developer for System z.

4.2 Service Level Information

No PTFs against this release of Developer for System z have been incorporated into the Web deliverable.

It is highly recommended that you frequently check the Developer for System z 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 Developer for System z. The following terminology is used:

- *Driving system*: the system used to install the program; where SMP/E executes.

  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 access these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system that is required to install Developer for System z.

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 this product's shipment?**
Any **one** of the following:				
5694-A01	z/OS	V01.08.00	N/A	No
5655-G44	IBM SMP/E for z/OS	V03.04.00	N/A	No

Note: Installation may 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.

Developer for System z is installed into a file system, either HFS or zFS. Before installing Developer for System z, you must ensure that the target system file system data sets are available for processing on the driving system. OMVS must be active on the driving system and the target system file system data sets must be mounted on the driving system.

If you plan to install Developer for System z in a zFS file system, this requires that zFS be active on the driving system. Information on activating and using zFS can be found in *IBM z/OS Distributed File Service zSeries File System Administration* (SC24-5989).

5.2 Target System Requirements

This section describes the environment of the target system that is required to install and use Developer for System z.

Developer for System z 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 by and *must* be present on the system or products that are not required by 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.

Refer to *IBM Rational Developer for System z Prerequisites Guide* (SC23-7659) in the Developer for System z online library at http://www-01.ibm.com/support/docview.wss?uid=swg27038517 for an up-to-date list of mandatory installation requisites.

Note: Installation may 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.

Developer for System z has no conditional installation requisites.

5.2.2.2 Operational Requisites

Operational requisites are products that are required by and *must* be present on the system or products that are not required by 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.

Developer for System z 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.

Refer to *IBM Rational Developer for System z Prerequisites Guide* (SC23-7659) in the Developer for System z online library at http://www-01.ibm.com/support/docview.wss?uid=swg27038517 for an up-to-date list of 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.

Developer for System z 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.

Developer for System z has no negative requisites.

5.2.3 DASD Storage Requirements

Developer for System z libraries can reside on all supported DASD types.

Figure 6 on page 11 lists the total space that is required for each type of library.

Figure 6. Total DASD Space Required by Developer for System z	
Library Type	**Total Space Required in 3390 Trks**
Target	695 Tracks
Distribution	4850 Tracks
File System	4200 Tracks
Non-SMP/E Temporary	7465 Tracks

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 6.1.12, "Allocate SMP/E Target and Distribution Libraries" on page 22.

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 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:

- 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 LNKLST.
- 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 Developer for System z. The storage requirements of Developer for System z 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.

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SFEKAUTH	APF Modules	ANY	U	PDS/E	U	0	20	5
SFEKEXEC	Configuration Utility	ANY	U	PDS/E	VB	256	10	5
SFEKINPT	Configuration Utility	ANY	U	PDS/E	FB	80	5	5
SFEKJCL	Install JCL	ANY	U	PDS/E	FB	80	10	5
SFEKLMOD	Modules	ANY	U	PDS	U	0	15	5
SFEKLOAD	Modules	ANY	U	PDS/E	U	0	240	n/a
SFEKLPA	LPA Modules	ANY	U	PDS	U	0	5	5
SFEKMSGS	Configuration Utility	ANY	U	PDS/E	FB	80	5	5
SFEKPANL	Configuration Utility	ANY	U	PDS/E	FB	80	20	10

Figure 7 (Page 1 of 2). Storage Requirements for Developer for System z Target Libraries

Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SFEKPROC	Procs	ANY	U	PDS/E	FB	80	15	5
SFEKSAMP	Samples	ANY	U	PDS/E	FB	80	75	30
SFEKSAMV	Samples	ANY	U	PDS/E	VB	256	10	5
SFEKSKEL	Configuration Utility	ANY	U	PDS/E	VB	256	10	5
SFEKTABL	Configuration Utility	ANY	U	PDS/E	FB	80	5	5
SFEKVSM1	Samples	ANY	U	PDS/E	FB	180	10	5
SFEKVSM2	Samples	ANY	U	PDS/E	FB	2150	240	5

Figure 7 (Page 2 of 2). Storage Requirements for Developer for System z Target Libraries

DDNAME	TYPE	Path Name
SFEKHBIN	X	/usr/lpp/rdz/bin/IBM/
SFEKHLIB	X	/usr/lpp/rdz/lib/IBM/
SFEKHICU	X	/usr/lpp/rdz/lib/icuc/IBM/
SFEKHSAM	X	/usr/lpp/rdz/samples/IBM/
SFEKHXSD	X	/usr/lpp/rdz/samples/zunit/xsd/IBM/
SFEKHXSL	X	/usr/lpp/rdz/samples/zunit/xsl/IBM/
SFEKHPIC	X	/usr/lpp/rdz/cicsts/wspickup/IBM/
SFEKHPIP	X	/usr/lpp/rdz/cicsts/pipeline/IBM/

Figure 8. Developer for System z File System Paths

Note: The paths shown in this table will be prefixed by a user defined path prefix.

For example:

```
/user-defined-pathprefix/usr/lpp/rdz/bin/IBM/
```

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
AFEKHFS	U	PDS/E	VB	8796	4200	30

Figure 9 (Page 1 of 2). Storage Requirements for Developer for System z Distribution Libraries

Figure 9 (Page 2 of 2). Storage Requirements for Developer for System z 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
AFEKLOAD	U	PDS/E	U	0	255	n/a
AFEKSAMP	U	PDS/E	FB	80	120	50
AFEKSAMV	U	PDS/E	VB	256	25	10
AFEKVSM1	U	PDS/E	FB	180	10	5
AFEKVSM2	U	PDS/E	FB	2150	240	5

The following figures list data sets that are not used by SMP/E, but are required for Developer for System z to run.

Figure 10 (Page 1 of 2). Storage Requirements for Developer for System z Non-SMP/E Data Sets						
Data Set Name	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
hlq.IBM.HHOP900.F1	U	PDS/E	FB	80	7	n/a
hlq.IBM.HHOP900.F1.BIN	U	SEQ	FB	80	4	n/a
hlq.IBM.HHOP900.F2	U	PDS/E	FB	80	99	n/a
hlq.IBM.HHOP900.F2.BIN	U	SEQ	FB	80	54	n/a
hlq.IBM.HHOP900.F3	U	PDS/E	VB	8796	3889	n/a
hlq.IBM.HHOP900.F3.BIN	U	SEQ	FB	80	2648	n/a
hlq.IBM.HHOP900.F4	U	PDS/E	U	0	180	n/a
hlq.IBM.HHOP900.F4.BIN	U	SEQ	FB	80	160	n/a
hlq.IBM.HHOP900.F5	U	PDS/E	VB	256	21	n/a
hlq.IBM.HHOP900.F5.BIN	U	SEQ	FB	80	10	n/a
hlq.IBM.HHOP900.F6	U	PDS/E	FB	180	6	n/a
hlq.IBM.HHOP900.F6.BIN	U	SEQ	FB	80	3	n/a
hlq.IBM.HHOP900.F7	U	PDS/E	FB	2150	222	n/a
hlq.IBM.HHOP900.F7.BIN	U	SEQ	FB	80	151	n/a
hlq.IBM.HHOP900.JCL	U	PDS/E	FB	80	5	n/a
hlq.IBM.HHOP900.JCL.BIN	U	SEQ	FB	80	3	n/a

Figure 10 (Page 2 of 2). Storage Requirements for Developer for System z Non-SMP/E Data Sets						
Data Set Name	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
hlq.IBM.HHOP900.SMPMCS	U	SEQ	FB	80	2	n/a
Note: These are temporary data sets, which can be removed after the SMP/E install.						

5.3 FMIDs Deleted

Installing Developer for System z 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 Developer for System z 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, see the SMP/E manuals for instructions.

5.4 Special Considerations

Developer for System z 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 Developer for System z.

Please note the following:

- If you want to install Developer for System z 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.

- 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 Developer for System z

6.1.1 SMP/E Considerations for Installing Developer for System z

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Developer for System z.

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.

Figure 11. SMP/E Options Subentry Values		
Subentry	**Value**	**Comment**
DSSPACE	(1200,1200,1400)	Space allocation
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 Overview of the installation steps

Overview of steps required to install IBM Rational Developer for System z.

1. Upload sample JCL from the CD-ROM

2. Expand the sample jcl file by using the TSO Receive command

3. Sample Jobs

4. Run the job to allocate sequential data sets to FTP into

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

6. Expand the RELFILEs by using the TSO Receive command

7. Create SMP/E Environment (optional)

8. Perform SMP/E RECEIVE

9. Allocate SMP/E target and distribution libraries

10. Allocate and mount z/OS UNIX file system (optional)

11. Allocate z/OS UNIX paths

12. Create DDDEF entries

13. Perform SMP/E APPLY

14. Perform SMP/E ACCEPT

6.1.4 Upload Sample JCL from the CD-ROM

On the CD-ROM, there is a file containing sample installation JCL. This sample JCL contains a member that will allocate the sequential data sets on z/OS for the 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 z/OS:

1. Allocate a data set on z/OS to use as the target of the upload. You can do this by creating a data set with the characteristics from the job below or by submitting the job below. if you choose to submit the following job you need to make the following updates:

   a. Add a job card and modify the parameters to meet your site's requirements before submitting.

   b. **hlq** will be the high level qualifier you choose to use for this data set.

   c. (Optionally) Replace vvvvvv with the volser you choose to use for this data set.

```
//ALLOC1   EXEC PGM=IEFBR14
//*
//FTPALLOC DD DSN=hlq.IBM.HHOP900.JCL.BIN,
//            DISP=(NEW,CATLG,DELETE),
//            DSORG=PS,
//            RECFM=FB,
//            LRECL=80,
//            BLKSIZE=0,
//*           VOL=SER=vvvvvv,
//            UNIT=SYSALLDA,
//            SPACE=(TRK,(3,5))
```

2. Upload the sample jcl file in binary format from the CD-ROM to this 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 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 12. User Entered Values	
User enters:	**Values**
mvsaddr	TCP/IP address or hostname of the z/OS 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 %version% at mvsaddr, %time% on %date%.
220 Connection will close if idle for more than 5 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:\HHOP900\IBM.HHOP900.JCL.BIN
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.JCL.BIN
250 Transfer completed successfully.
ftp: 112560 bytes sent in 0.05 sec. (2297.208 Kb/s)
```

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

6.1.5 Expand the sample jcl file by using the TSO Receive command:

```
RECEIVE INDA('hlq.IBM.HHOP900.JCL.BIN')
```

When prompted on the TSO receive command, use the appropriate DSNAME as listed below:

```
DS('hlq.IBM.HHOP900.JCL')
```

6.1.6 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install Developer for System z. The RELFILEs will be prefixed with the high level qualifier ("hlq" in table below) used when the files are "received". The jobs are contained in the sample JCL data set **hlq**.HHOP900.JCL that was uploaded.

Figure 13. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
FEKSEQAL	SMP/E	Sample job to allocate sequential data sets for FTPing the product data sets into	hlq.IBM.HHOP900.F1
FEK1SMPE	SMP/E	Sample job to create an SMP/E environment (optional)	hlq.IBM.HHOP900.F1
FEK2RCVE	RECEIVE	Sample SMP/E RECEIVE job	hlq.IBM.HHOP900.F1
FEK3ALOC	ALLOCATE	Sample job to allocate target and distribution libraries	hlq.IBM.HHOP900.F1
FEK4MNT	MOUNT	Sample job to allocate and mount a file system (optional)	hlq.IBM.HHOP900.F1
FEK5MKD	MKDIR	Sample job to invoke the supplied FEKMKDIR EXEC to allocate z/OS UNIX paths	hlq.IBM.HHOP900.F1
FEK6DDEF	DDDEF	Sample job to define SMP/E DDDEFs	hlq.IBM.HHOP900.F1
FEK7APLY	APPLY	Sample SMP/E APPLY job	hlq.IBM.HHOP900.F1
FEK8ACPT	ACCEPT	Sample SMP/E ACCEPT job	hlq.IBM.HHOP900.F1

6.1.7 Allocate sequential data sets to FTP into

Edit and submit sample job **FEKSEQAL** in the **hlq**.IBM.HHOP900.JCL data set 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.

Expected Return Codes and Messages: RC=0

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

1. 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 %version% at mvsaddr, %time% on %date%.
220 Connection will close if idle for more than 5 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:\HHOP900\IBM.HHOP900.F*
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.F1.BIN
250 Transfer completed successfully.
ftp: 187520 bytes sent in 0.02 sec. (11293.945 Kb/s)
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.F2.BIN
250 Transfer completed successfully.
ftp: 2980640 bytes sent in 0.33 sec. (8667.350 Kb/s)
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.F3.BIN
250 Transfer completed successfully.
ftp: 147834800 bytes sent in 11.91 sec. (8088.401 Kb/s)
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.F4.BIN
250 Transfer completed successfully.
ftp: 8882560 bytes sent in 0.80 sec. (8080.105 Kb/s)
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.F5.BIN
250 Transfer completed successfully.
ftp: 544560 bytes sent in 0.06 sec. (8515.625 Kb/s)
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.F6.BIN
250 Transfer completed successfully.
ftp: 157840 bytes sent in 0.05 sec. (3262.965 Kb/s)
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.F7.BIN
```

```
250 Transfer completed successfully.
ftp: 8380480 bytes sent in 0.36 sec. (8304.904 Kb/s)
ftp> put d:\HHOP900\IBM.HHOP900.SMPMCS
200 Port request OK.
125 Storing data set hlq.IBM.HHOP900.SMPMCS
250 Transfer completed successfully.
ftp: 69760 bytes sent in 0.01 sec. (4151.042 Kb/s)
ftp> quit
221 Quit command received. Goodbye.
```

6.1.9 Expand the RELFILEs by using the TSO Receive command

```
RECEIVE INDA('hlq.IBM.HHOP900.F1.BIN')
RECEIVE INDA('hlq.IBM.HHOP900.F2.BIN')
RECEIVE INDA('hlq.IBM.HHOP900.F3.BIN')
RECEIVE INDA('hlq.IBM.HHOP900.F4.BIN')
RECEIVE INDA('hlq.IBM.HHOP900.F5.BIN')
RECEIVE INDA('hlq.IBM.HHOP900.F6.BIN')
RECEIVE INDA('hlq.IBM.HHOP900.F7.BIN')
```

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

```
DS('hlq.IBM.HHOP900.F1')
DS('hlq.IBM.HHOP900.F2')
DS('hlq.IBM.HHOP900.F3')
DS('hlq.IBM.HHOP900.F4')
DS('hlq.IBM.HHOP900.F5')
DS('hlq.IBM.HHOP900.F6')
DS('hlq.IBM.HHOP900.F7')
```

6.1.10 Create SMP/E Environment (optional)

If you are using an existing CSI, do not run the sample job FEK1SMPE.

If you choose to create a new SMP/E environment for this install a sample job is provided or you may choose to use your own JCL. If you choose to use the sample job provided, edit and submit FEK1SMPE. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.11 Perform SMP/E RECEIVE

Edit and submit sample job FEK2RCVE to perform the SMP/E RECEIVE for Developer for System z. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

If you obtained Developer for System z as part of a CBPDO, use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the Developer for System z FMIDs as well as any service, HOLDDATA, or preventive service planning (PSP) information included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

6.1.12 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job FEK3ALOC to allocate the SMP/E target and distribution libraries for Developer for System z. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.13 Allocate and mount z/OS UNIX file system (optional)

Edit and submit sample job FEK4MNT to create and mount a z/OS UNIX file system for Developer for System z. Consult the instructions in the sample job for more information.

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

Expected Return Codes and Messages: RC=0

6.1.14 Allocate z/OS UNIX Paths

Edit and submit sample job FEK5MKD to allocate z/OS UNIX paths for Developer for System z. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.15 Create DDDEF Entries

Edit and submit sample job FEK6DDEF to create DDDEF entries for the SMP/E target and distribution libraries for Developer for System z. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.16 Perform SMP/E APPLY

Edit and submit sample job FEK7APLY to perform an SMP/E APPLY CHECK for Developer for System z. 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).

Enhanced HOLDDATA introduced ERROR HOLDs against FMIDs for HIPER APARs. Prior to installing, you should ensure you have the latest Enhanced HOLDDATA (available at url http://service.software.ibm.com/holdata/390holddata.html). The FMID(s) should be installed regardless of the status of unresolved HIPERs, however, the software should not be deployed until the unresolved HIPERs have been analyzed to determine applicability.

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

1. To ensure that all critical service is installed with the FMID(s), add the SOURCEIDs of PRP, and HIPER to the APPLY command. There may be PE or HIPER APARs that do not have resolving PTFs available yet. You need to analyze the symptom flags to determine if you want to BYPASS the specific ERROR HOLDs and continue the FMID installation.

   ```
   APPLY S(fmid,fmid,...)
   FORFMID(fmid,fmid,...)
   SOURCEID(PRP,HIPER,...)
   GROUPEXTEND .
   ```

   This method requires more initial research, but will provide resolution for all HIPERs that have fixes available and are not in a PE chain. There may still be unresolved PEs or HIPERs which will require the use of BYPASS.

2. To install the FMID(s) as it would have been installed prior to Enhanced HOLDDATA, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. This will allow the FMID to be installed even though there are HIPER ERROR HOLDs against it. Note that not all ERROR HOLDs were bypassed, only the HIPER ERROR HOLDs. After the FMID(s) are installed, the SMP/E REPORT ERRSYSMODS command should be run to identify any missing HIPER maintenance.

   ```
   APPLY S(fmid,fmid,...)
   BYPASS(HOLDCLASS(HIPER))
   other parameters documented in the program directory...
   ```

   This method is the quicker of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs.

If you bypass any HOLDs during the installation of the FMID(s) because fixing PTFs were not yet available you can use the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink to be notified when the fixing PTF is available.

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

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

6.1.17 Perform SMP/E ACCEPT

Edit and submit sample job FEK8ACPT to perform an SMP/E ACCEPT CHECK for Developer for System z. 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

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.

Expected Return Codes and Messages from ACCEPT: RC=0

6.1.18 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones. This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set. You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install Developer for System z, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

For more information about REPORT CROSSZONE, see the SMP/E manuals.

6.2 Activating Developer for System z

The publication *IBM Rational Developer for System z Host Configuration Quick Start Guide* (GI11-9201) contains the step-by-step procedures to activate the functions of Developer for System z.

6.2.1 File System Execution

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

7.0 Notices

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Program Directory for IBM Rational Developer for System z, June 2013

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

	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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