IBM

Program Directory for

IBM WebSphere

Transformation Extender

V8.2.0

Program Number 5655-R95
FMIDs HDTX820, JDTX821, JDTX822, JDTX823, JDTX824

for Use with
z/OS

Document Date: December 2007

GI11-2870-02

> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 28.

Contents

Figures

1.0 Introduction

This Program Directory is intended for the system programmer responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM WebSphere Transformation Extender for z/OS. This publication refers to IBM WebSphere Transformation Extender for z/OS as Transformation Extender for z/OS.

The Program Directory contains the following sections:

2.0, " Program Materials" on page 3 identifies the basic and optional program materials and documentation for Transformation Extender for z/OS.

3.0, "Program Support" on page 7 describes the IBM support available for Transformation Extender for z/OS.

4.0, "Program and Service Level Information" on page 9 lists the APARs (program level) and PTFs (service level) incorporated into Transformation Extender for z/OS.

5.0, "Installation Requirements and Considerations" on page 11 identifies the resources and considerations required for installing and using Transformation Extender for z/OS.

6.0, "Installation Instructions" on page 18 provides detailed installation instructions for Transformation Extender for z/OS. It also describes the procedures for activating the functions of Transformation Extender for z/OS, or refers to appropriate publications.

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

Transformation Extender for z/OS is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory is provided in softcopy form on the CBPDO tape which is identical to the hardcopy form provided with your order. All service and HOLDDATA for Transformation Extender for z/OS are included on the CBPDO tape.

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

1.1 Transformation Extender for z/OS Description

Transformation Extender for z/OS offers the following benefits:

Achieve complex data integration in transactional and operational environments across the enterprise.

Implement and re-use integration and business logic without low level coding.

Leverage the value of legacy systems in enterprise applications.

Meet project-based, enterprise-wide needs for transactional and operational integration.

Comply with industry and regulatory standards for exchange of complex data.

1.2 Transformation Extender for z/OS FMIDs

Transformation Extender for z/OS consists of the following FMIDs:

HDTX820
JDTX821
JDTX822
JDTX823
JDTX824

Figure 1. FMID descriptions		
FMID	**Description**	**Comment**
HDTX820	Transformation Extender - Common Components	Contains the configuration, setup, and runtime components common to the Transformation Extender for Application Programming, Transformation Extender with Command Server, Transformation Extender with Launcher, Transformation Extender for Integration Servers
JDTX821	Transformation Extender with Command Server	Contains the runtime and the examples for the Batch Command Server.
JDTX822	Transformation Extender for Application Programming	Contains the configuration, setup, examples and runtime for the z/OS development kit, UNIX System Services development kit, and the IMS/TM and CICS execution environments.
JDTX823	Transformation Extender for Integration Servers	Contains the configuration, setup, and runtime for the WTX interfaces with WebSphere Message Broker, WebSphere Process Server and WebSphere Enterprise Service Bus.
JDTX824	Transformation Extender with Launcher	Contains the configuration, setup and run time for the z/OS launcher.

2.0 Program Materials

An IBM program is identified by a program number. The program number for Transformation Extender for z/OS is 5655-R95.

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 Transformation Extender for z/OS. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 18 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for Transformation Extender for z/OS can be found in the *CBPDO Memo To Users Extension*.

Figure 2 describes the program file content for Transformation Extender for z/OS. You can refer to the *CBPDO Memo To Users Extension* to see where the files reside on the tape.

Figure 2 (Page 1 of 2). Program File Content				
Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.HDTX820.F1	PDSE	VB	128	6144
IBM.HDTX820.F2	PDSE	U	0	6144
IBM.HDTX820.F3	PDSE	FB	80	8800
IBM.JDTX821.F1	PDSE	FB	80	8800
IBM.JDTX821.F2	PDSE	VB	256	3860
IBM.JDTX821.F3	PDSE	U	0	6144
IBM.JDTX822.F1	PDSE	U	0	6144
IBM.JDTX822.F2	PDSE	FB	80	8800
IBM.JDTX822.F3	PDSE	VB	256	3860

Name	ORG	RECFM	LRECL	BLK SIZE
IBM.JDTX822.F4	PDSE	VB	128	6144
IBM.JDTX822.F5	PDSE	U	0	6144
IBM.JDTX823.F1	PDSE	VB	128	6144
IBM.JDTX824.F1	PDSE	FB	80	8800
IBM.JDTX824.F2	PDSE	VB	1024	31744
IBM.JDTX824.F3	PDSE	VB	128	6144
IBM.JDTX824.F4	PDSE	U	0	6144

Figure 2 (Page 2 of 2). Program File Content

2.2 Optional Machine-Readable Material

There is no optional machine readable material.

The distribution medium for this program is magnetic tape or downloadable files.

2.3 Program Publications

The following sections identify the basic and optional publications for Transformation Extender for z/OS.

2.3.1 Basic Program Publications

Figure 3 identifies the basic unlicensed program publications for Transformation Extender for z/OS. One copy of each of these publications is included when you order the basic materials for Transformation Extender for z/OS. For additional copies, contact your IBM representative.

The following publications are available on CD only as part of publication LCD8-0592-00

Publication Title	Form Number
IBM WebSphere Transformation Extender CICS Adapter	1105.pdf
IBM WebSphere Transformation Extender Command Server	1010.pdf
IBM WebSphere Transformation Extender DB2 (z/OS ODBC) Adapter	1053.pdf

Figure 3 (Page 1 of 2). Basic Material: Unlicensed Publications

Figure 3 (Page 2 of 2). Basic Material: Unlicensed Publications	
Publication Title	**Form Number**
IBM WebSphere Transformation Extender DB2 (z/OS) Adapter	1055.pdf
IBM WebSphere Transformation Extender Execution Commands	1007.pdf
IBM WebSphere Transformation Extender FTP adapter	1056.pdf
IBM WebSphere Transformation Extender IBM WebSphere MQ Adapter	1059.pdf
IBM WebSphere Transformation Extender IMS/DC Execution Option	1103.pdf
IBM WebSphere Transformation Extender Launcher	1011.pdf
IBM WebSphere Transformation Extender Performance Recommendations	1120.pdf
IBM WebSphere Transformation Extender Platform API	1020.pdf
IBM WebSphere Transformation Extender Utility Commands	1118.pdf
IBM WebSphere Transformation Extender What's New	1030.pdf
IBM WebSphere Transformation Extender z/OS Configuration Guide	1145.pdf

There are no licensed publications.

2.3.2 Optional Program Publications

No optional publications are provided for Transformation Extender for z/OS.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Transformation Extender for z/OS.

2.5 Publications Useful During Installation

The publications listed in Figure 4 may be useful during the installation of Transformation Extender for z/OS. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at:
http://www.ibm.com/shop/publications/order

Figure 4 (Page 1 of 2). Publications Useful During Installation	
Publication Title	**Form Number**
IBM SMP/E for z/OS User's Guide	SA22-7773

Figure 4 (Page 2 of 2). Publications Useful During Installation	
Publication Title	**Form Number**
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
CICS Customization Guide	SC34-6429
CICS Resource Definition Guide	SC34-6430
z/OS Communications Server IP CICS Sockets Guide	SC31-8776
UNIX System Services Planning	GA22-7809
UNIX System Services Command Reference	SA22-7802
DB2 UDB for z/OS Administration Guide	SC18-7413
DB2 UDB for z/OS ODBC Guide and Reference	SC18-7423
IMS Planning and Customization	SC18-7817
WebSphere MQ for z/OS System Administration Guide V6.0	SC34-6585

3.0 Program Support

This section describes the IBM support available for Transformation Extender 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 Transformation Extender for z/OS, it is VERY IMPORTANT that you review 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 this package's installation. This includes software PSP information
 that contains HIPER, and/or required PTFs against the base release.

While there can be overlap between SW, HW and functional PSP buckets, reviewing all that apply to this package will ensure that you identify any known service required for your installation of this package.

If you obtained Transformation Extender for z/OS as part of a CBPDO, there is HOLDDATA included on the PDO.

If the CBPDO for Transformation Extender for z/OS is more than two weeks old when you install it, you should contact the IBM Support Center, use S/390 SoftwareXcel to obtain the current "PSP Bucket" or obtain the current PSP from the Web at https://techsupport.services.ibm.com/server/390.psp390

For program support, access the Software Support Web site at http://www-3.ibm.com/software/support/

PSP Buckets are identified by UPGRADEs, which specify product levels, and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for Transformation Extender for z/OS are:

UPGRADE	SUBSET	Description
Figure 5. PSP Upgrade and Subset ID		
TX	HDTX820	Transformation Extender - Common Components
TX	JDTX821	Transformation Extender with Command Server
TX	JDTX822	Transformation Extender for Application Programming
TX	JDTX823	Transformation Extender for Integration Servers
TX	JDTX824	Transformation Extender with Launcher

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 advise how you should submit any needed information or documentation.

Figure 6 on page 8 identifies the component IDs (COMPID) for Transformation Extender for z/OS.

Figure 6. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
HDTX820	5655R9500	Transformation Extender - Common Components	820
JDTX821	5655R9501	Transformation Extender with Command Server	821
JDTX822	5655R9502	Transformation Extender for Application Programming	822
JDTX823	5655R9503	Transformation Extender for Integration Servers	823
JDTX824	5655R9504	Transformation Extender with Launcher	824

4.0 Program and Service Level Information

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

4.1 Program Level Information

The following APAR fixes against previous releases of Transformation Extender for z/OS have been incorporated into this release.

Figure 7. APARs fixed in this release

PK48813	PK49808	PK50053	PK50055
PK50091	PK50099	PK50277	PK50366
PK50920	PK51043	PK51236	PK51701
PK51706	PK51989	PK52239	PK52239
PK52430	PK52514	PK53020	PK53048
PK53294	PK53501	PK53629	PK53675
PK53797	PK54124	PK54324	PK54328
PK54330	PK54335	PK54338	PK54340
PK54345	PK54359	PK54366	PK54373
PK54388	PK54389	PK54390	PK54391
PK54426	PK54429	PK54449	PK54450
PK54452	PK54465	PK54468	PK54480
PK54487	PK54491	PK54497	PK54504
PK54507	PK54563	PK54817	PK54863
PK54919	PK54995	PK55018	PK55112
PK55119	PK55274	PK55282	PK55544
PK55566	PK55750	PK55778	PK55947
PK56067	PK56110	PK56136	PK56397
PK56640			

4.2 Service Level Information

No PTFs against this release of Transformation Extender for z/OS have been incorporated into the product tape.

Over time it is HIGHLY recommended that you frequently check the Transformation Extender for z/OS PSP bucket for HIPER and SPECIAL Attention PTFs against all FMID(s) which should be installed.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Transformation Extender for z/OS. The following terminology is used:

Driving system: the system used to install the program.

The program may have specific operating system or product level requirements for utilizing processes such as binder or assembly utilities during the install.

Target system: the system on which the program is intended to run.

The program may have specific product level requirements such as needing access to another product's library for link-edits that may directly affect the elements during the install or for its basic or enhanced operation. These requirements may be mandatory or optional.

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 Transformation Extender 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 8. Driving System Software Requirements		
Program Number	**Product Name and Minimum VRM/Service Level**	
5694-A01	z/OS V1.7 or higher	

Transformation Extender for z/OS invokes UNIX shell scripts during installation. These shell scripts require the default system shell "/bin/sh".

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Transformation Extender for z/OS.

Transformation Extender 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

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

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

Transformation Extender for z/OS has no mandatory installation requisites.

A conditional installation requisite identifies products that are **not** required for successful install but may resolve such things as certain warning messages at installation time. They include products that are specified as IF REQs.

Transformation Extender for z/OS has no conditional installation requisites.

5.2.2.2 Operational Requisites

An operational requisite is defined as a product that is required and **must** be present or a product that is not required but **should** be present on the system in order for this product to operate all or some of its functions.

A mandatory operational requisite identifies products that are required, without exception, or this product **will not operate** its basic function unless the requisite is met. This includes products specified as PREs or REQs.

Figure 9. Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5694-A01	z/OS V1.8 or higher
5655-J51	XML Toolkit for z/OS V1.9 or higher (all FMIDs should be installed)

Figure 10. Mandatory Operational Requisites Transformation Extender for Integration Servers	
Program Number	**Product Name and Minimum VRM/Service Level**
5694-A01	z/OS V1.8 or higher
5655-J51	XML Toolkit for z/OS V1.9 or higher
Any **one** of the following	
5655-R15	WebSphere Enterprise Service Bus for z/OS V6.1 or higher
5655-N53	WebSphere Process Server for z/OS V6.1 or higher
5655-M74	WebSphere Message Broker for z/OS V6 or higher

A conditional operational requisite identifies products that are **not required** for the basic function but are needed at run time for this product to utilize specific functions. They may include products specified as IF REQs.

Figure 11 (Page 1 of 2). Conditional Operational Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5675-DB2	DB2 for z/OS and OS390 V7 or higher	DB2 adapter.
5675-DB2	DB2 for z/OS and OS390 V7 or higher with ODBC configured.	ODBC adapter.
5697-E93	CICS Transaction Server Version 2 Release 2 or higher	CICS

Figure 11 (Page 2 of 2). Conditional Operational Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5655-M15	CICS Transaction Server for z/OS Version 3 Release 1 or higher	CICS with XPLINK
5655-B01	IMS Version 7 or higher	IMS

Figure 12. Conditional Operational Requisites Transformation Extender with Launcher	
Program Number	**Product Name and Minimum VRM/Service Level**
5665-I56	IBM SDK for z/OS Java 2 Technology Edition V1.5 or higher
None.	An X-Windows server, installed on suitable system

5.2.2.3 Toleration/Coexistence Requisites

A toleration/coexistence requisite is defined as a product that 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.

Transformation Extender for z/OS has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites

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

Transformation Extender for z/OS has no negative requisites.

5.2.3 DASD Storage Requirements

Transformation Extender for z/OS libraries can reside on all supported DASD types.

Figure 13 lists the total space required for each type of library.

Figure 13. Total DASD Space Required by Transformation Extender for z/OS	
Library Type	**Total Space Required in 3390 Trks**
Target	1569 3390 tracks
Distribution	2085 3390 tracks
HFS or zFS	1553 3390 tracks

Notes:

1. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.

2. Abbreviations used for the data set type are:

   U   Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or Program Directories) need to be referenced for the data set size.

   S   Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other Program Directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

   E   Existing shared data set, used by this product and others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set must have enough free space to accommodate the storage size given in this table.

   If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

   For more information on the names and sizes of the required data sets, refer to 6.1.5, "Allocate SMP/E Target and Distribution Libraries" on page 19.

3. Abbreviations used for the HFS or zFS 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 data set to be APF-authorized.

Figure 14. Storage Requirements for SMP/E Data Sets						
Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SMPLTS	E	PDS	U	0	3	2
SMPMTS	E	PDS	FB	80	2	2
SMPPTS	E	PDS	FB	80	3	2
SMPSCDS	E	PDS	FB	80	2	2
SMPSTS	E	PDS	FB	80	2	2

The following figures describe the target and distribution libraries and HFS or zFS paths required to install Transformation Extender for z/OS. The storage requirements of Transformation Extender 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 15. Storage Requirements for Transformation Extender for z/OS Target Libraries							
Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SDTXCLST	Sample	TVOL2	U	PDSE	FB	80	2	-
SDTXCNFG	Sample	TVOL2	U	PDSE	VB	1024	2	-
SDTXLOAD	LMOD	TVOL1	U	PDSE	U	0	1101	-
SDTXLOD2	LMOD	TVOL1	U	PDSE	U	0	424	-
SDTXMAPS	Sample	TVOL2	U	PDSE	VB	256	6	-
SDTXPENU	Sample	TVOL2	U	PDSE	FB	80	2	-
SDTXSAMP	Sample	TVOL2	U	PDSE	FB	80	32	-

DDNAME	T Y P E	Path Name
Figure 16. Transformation Extender for z/OS HFS or zFS Paths		
SDTXHFS	N	/usr/lpp/dtx/V8R2M0/IBM

Figure 17. Storage Requirements for Transformation Extender 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
ADTXCLST	U	PDSE	FB	80	2	-
ADTXCNFG	U	PDSE	VB	1024	2	-
ADTXHFS	U	PDSE	VB	256	516	-
ADTXLOAD	U	PDSE	U	0	1101	-
ADTXLOD2	U	PDSE	U	0	424	-
ADTXMAPS	U	PDSE	VB	256	6	-
ADTXPENU	U	PDSE	FB	80	2	-
ADTXSAMP	U	PDSE	FB	80	32	-

5.3 FMIDs Deleted

The following FMIDs are deleted by this product. HDTX810 JDTX811 JDTX812 JDTX813 JDTX814

If you do not wish to delete these FMIDs at this time, you must install Transformation Extender for z/OS into separate SMP/E target and distribution zones.

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

5.4 Special Considerations

Transformation Extender 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 Transformation Extender for z/OS.

Please note the following:

If you want to install Transformation Extender for z/OS into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.

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

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

6.1 Installing Transformation Extender for z/OS

6.1.1 SMP/E Considerations for Installing Transformation Extender for z/OS

This release of Transformation Extender 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.

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 18. 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 18. SMP/E Options Subentry Values		
SUB-ENTRY	**Value**	**Comment**
DSSPACE	800,500,100	
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 Sample Jobs

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

Figure 19. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
DTXALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HDTX820.F3
DTXISMKD	MKDIR	Sample job to invoke the supplied DTXMKDIR EXEC to allocate HFS or zFS paths	IBM.HDTX820.F3
DTXALHFS	ALLOCATE	Allocate HFS	IBM.HDTX820.F3
DTXDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HDTX820.F3

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 19 on page 18 to find the appropriate relfile data set.

6.1.4 Perform SMP/E RECEIVE

Having obtained Transformation Extender for z/OS as part of a CBPDO, use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the Transformation Extender for z/OS FMIDs as well as any service, HOLDDATA, included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

6.1.5 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job DTXALLOC to allocate the SMP/E target and distribution libraries for Transformation Extender for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages:
The job is considered successful if return code zero is received.

6.1.6 Allocate HFS Paths

The target system HFS or zFS data set must be mounted on the driving system when running the sample DTXISMKD 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 Transformation Extender for z/OS into a file system that is zFS.

If you plan to install Transformation Extender 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 Transformation Extender for z/OS, the recommended mountpoint is: /usr/lpp/dtx/V8R2M0/IBM

Edit and submit sample job DTXISMKD to allocate the HFS or z/FS paths for Transformation Extender for z/OS. Consult the instructions in the sample job for more information.

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

Expected Return Codes and Messages:
The job is considered successful if return code zero is received.

6.1.7 Create DDDEF Entries

Edit and submit sample job DTXDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Transformation Extender for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages.
The job is considered successful if return code zero is received.

6.1.8 Perform SMP/E APPLY

1. Ensure you have the latest Enhanced HOLDDATA, then edit and submit sample job DTXAPPLY to perform an SMP/E APPLY CHECK for Transformation Extender for z/OS. Consult the instructions in the sample job for more information.

   Perform an SMP/E APPLY CHECK for Transformation Extender for z/OS.

   Enhanced HOLDDATA introduces 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.

   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).

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

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

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

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

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

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(RSU )
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
 ..any 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.

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

Note: You can APPLY the base and optional features together in one step.

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

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

Expected Return Codes and Messages from APPLY CHECK:
The job is considered successful if return code zero is received.

Expected Return Codes and Messages from APPLY:
The job is considered successful if return code zero is received.

6.1.9 Perform SMP/E ACCEPT

Perform an SMP/E ACCEPT CHECK for Transformation Extender for z/OS.

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

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

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: You can ACCEPT the base and optional features together in one step.

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:
The job is considered successful if return code zero is received.

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

Expected Return Codes and Messages from ACCEPT:
The job is considered successful if return code zero is received.

6.1.10 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command will identify requisites defined for products that have been installed in separate zones. This command will also create APPLY and ACCEPT commands in the SMPPUNCH data set that you can use to install those cross-zone requisites it identifies.

After you have installed Transformation Extender for z/OS, 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 describing all the target and distribution libraries to be reported on.

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

6.2 Activating Transformation Extender for z/OS

6.2.1 HFS or zFS Execution

If you choose to have the HFS or zFS in which you have installed Transformation Extender for z/OS mounted in read-only mode during execution, then no further tasks are required to accomplish this.

The following sections describe general notes as well as configuration steps for each Transformation Extender for z/OS feature you have installed.

6.3 General Information

6.3.1 References

The IBM WebSphere Transformation Extender z/OS Configuration Guide is available on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/). IBM WebSphere Transformation Extender z/OS Configuration Guide contains the most current information about the release, including additional requirements, configuration instructions, and known issues.

For information about other Transformation Extender for z/OS products that you have installed, see the readme files, IBM WebSphere Transformation Extender z/OS Configuration Guide
 and the documentation for those specific products. You can view the Information Center, included with the IBM WebSphere Transformation Extender products that are installed on your Windows environments, as well as the books, included in the online library CD.

For detailed information about using the adapters, see the IBM WebSphere Transformation Extender for z/OS adapter-specific documentation.

6.4 HDTX820 Transformation Extender - Common Components

6.4.1   Configuration requirements

For the configuration instructions required for the Transformation Extender for z/OS Common Components, see the Configuration steps section under Transformation Extender for z/OS - Common Components in the IBM WebSphere Transformation Extender z/OS Configuration Guide that are posted on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/).

6.4.2 Installation Verification Program (IVP) steps

There are no required IVP steps.

6.5 JDTX821 Transformation Extender with Command Server

6.5.1 Configuration requirements

The files that are installed with the Transformation Extender for z/OS with Command Server do not require you to do any configuration steps.

6.5.2 Installation Verification Program (IVP) steps

There are several IVP steps that you can do. The IVP steps are described in the following example readme files installed in the DTX.SDTXSAMP PDS and are used to test the various feature components.

6.5.2.1 For your Batch environment:

DTXBMRME

> Burst Map example

> used to verify that the feature installation was successful

> A return code of 0 or 4 is acceptable for this example.

DTXDMRME (Optional)

> DB2 Map example

> run only if you will be using the DB2 adapter

> The job is considered successful if return code zero is received.

DTXMQRME (Optional)

> WebSphere MQ example

> run only if you will be using the IBM WebSphere MQ adapter

> The job is considered successful if return code zero is received.

DTXMSRME (Optional)

> Resource Registry example

> run only if you will be using the Resource Registry Names to make calls.

> The job is considered successful if return code zero is received.

6.6 JDTX822 Transformation Extender for Application Programming

6.6.1 CICS environment

6.6.1.1 Configuration requirements for the CICS environment

For the configuration instructions required for using the Transformation Extender for z/OS on your CICS environment, see the Configuration steps for the CICS environment section in the IBM WebSphere Transformation Extender z/OS Configuration Guide that is posted on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/).

6.6.1.2 Installation Verification Program (IVP) steps for the CICS environment

There are several IVP steps that you can do. The IVP steps are described in the following example readme files installed in the DTX.SDTXSAMP PDS and are used to test the various feature components. For the configuration steps required to run the examples to verify that the installation was successful, see the Loading maps section in the IBM WebSphere Transformation Extender z/OS Configuration Guide that is available on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/).

DTXRVRME

Burst Map example

used to verify that the feature installation was successful
and to confirm that the feature components were installed
into the target libraries and correctly defined to CICS

The job is considered successful if return code zero is received.

DTXCDRME (Optional)

DB2 Map example

run only if you will be using the DB2 adapter and the DB2 plan

The job is considered successful if return code zero is received.

DTXCMRME (Optional)

WebSphere MQ example

run only if you will be using the IBM WebSphere MQ adapter

The job is considered successful if return code zero is received.

DTXCRRME (Optional)

Resource Registry example

run only if you will be using the Resource Registry

for configuration requirements, see the (Optional) Defining and loading the Resource Name file section in the IBM WebSphere Transformation Extender z/OS Configuration Guide that is available on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/)

The job is considered successful if return code zero is received.

6.7 IMS environment and z/OS Software Development Kit

6.7.1   Configuration requirements for the IMS environment

Depending on how the features will be used, there might be additonal configuration instructions required. For system administration and set up prerequisites that have not already been done in your IMS environment, see the Configuration steps for the IMS environment section in the Transformation Extender for z/OS release notes that are posted on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/).

There are several IVP steps that you can do. The IVP steps are described in the following example readme files installed in the DTX.SDTXSAMP PDS and are used to test the various feature components. Run either one of the JCL jobs referenced in the these readme files.

    DTXTARME

        Test API example using C program

        run to see how to call the Transformation Extender for z/OS Platform API

        The job is considered successful if return code zero is received.

    DTXTCRME

        Test API example using COBOL program

        run to see how to call the Transformation Extender for z/OS z/OS Software Development Kit functions as a DLL

        The job is considered successful if return code zero is received.

6.8 Unix System Services environment

6.8.1 Configuration requirements for the Unix System Services environment

For additional configuration steps that are common to other Transformation Extender for z/OS features installed on Unix System Services, see the Additional configuration on Unix System Services section in the IBM WebSphere Transformation Extender z/OS Configuration Guide that are posted on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/).

6.9 Installation Verification Program (IVP) steps for the Unix System Services environment

There are no required IVP steps.

6.10 JDTX823 Transformation Extender for Integration Servers

6.10.1 Configuration requirements

The files that are installed with the Transformation Extender for z/OS for Message Broker require you to do some configuration steps. For configuration and usage instructions, see the Transformation Extender for z/OS for Message Broker Release Notes that are posted on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/).

6.11   Installation Verification Program (IVP) steps

There are no required IVP steps.

6.12 JDTX824 Transformation Extender with Launcher

6.12.1 Configuration requirements

The files that are installed with the Transformation Extender for z/OS with Launcher require you to do some configuration steps. For configuration and usage instructions, see the &CONFIGGD, posted on the product Web site (http://www.ibm.com/software/integration/wdatastagetx/).

6.12.2 Installation Verification Program (IVP) steps

There are no required IVP steps.

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   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
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IBM
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Boca Raton, FL 33487
USA

FAX Number: (+1) (561) 862-3323

E-Mail: DTX_doc_feedback@us.ibm.com

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