IBM

Program Directory for

IBM WebSphere

Transformation Extender

for z/OS

V08.04.01

Program Number 5655-R95

FMIDs HDTX845, JDTX846, JDTX847, JDTX848, JDTX849

for Use with
z/OS V01.12.00 and higher

Document Date: 2006, 2013

> **Note**
>
> Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 30.

Contents

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1.0 Introduction

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

The Program Directory contains the following sections:

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

- 3.0, "Program Support" on page 8 describes the IBM support available for Transformation Extender for z/OS.

- 4.0, "Program and Service Level Information" on page 10 lists the APARs (program level) and PTFs (service level) that have been incorporated into Transformation Extender for z/OS.

- 5.0, "Installation Requirements and Considerations" on page 12 identifies the resources and considerations that are required for installing and using Transformation Extender for z/OS.

- 6.0, "Installation Instructions" on page 20 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 are supplied with this program in softcopy format and this Program Directory; then keep them for future reference. Section 3.2, "Preventive Service Planning" on page 8 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 that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for Transformation Extender for z/OS are included on the CBPDO tape.

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

1.1 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:

HDTX845
JDTX846
JDTX847
JDTX848
JDTX849

FMID	Description	Comment
Figure 1. FMID descriptions		
HDTX845	Transformation Extender - Common Components	Contains the configuration, setup, and runtime components common to the Transformation Extender for Application Programming, Transformation Extender with Command Servers, Transformation Extender with Launcher, Transformation Extender for Integration Severs
JDTX846	Transformation Extender with Command Servers	Contains the runtime and the examples for the Batch Command Server.
JDTX847	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.
JDTX848	Transformation Extender for Integration Severs	Contains the configuration, setup, and runtime for the WTX interfaces with WebSphere Message Broker, WebSphere Process Server and WebSphere Enterprise Service Bus.
JDTX849	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.

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 physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 20 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for Transformation Extender for z/OS 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.

Notes:

 1. The data set attributes in this table must be used in the JCL of jobs that read the data sets. However, because the data sets are in   IEBCOPY unloaded format, their actual attributes might be different.

 2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Name	ORG	RECFM	LRECL	BLK SIZE
Figure 2. Program File Content for HDTX845				
SMPMCS	SEQ	FB	80	8800
IBM.HDTX845.F1	PDSE	VB	128	6144
IBM.HDTX846.F2	PDSE	U	0	6144
IBM.HDTX847.F3	PDSE	FB	80	8800
IBM.HDTX848.F4	PDSE	U	0	6144

Figure 3. Program File Content for JDTX846

Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	8800
IBM.JDTX846.F1	PDSE	FB	80	8800
IBM.JDTX846.F2	PDSE	VB	256	3860
IBM.JDTX846.F3	PDSE	U	0	6144
IBM.JDTX846.F4	PDSE	U	0	6144

Figure 4. Program File Content for JDTX847

Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	8800
IBM.JDTX847.F1	PDSE	U	0	6144
IBM.JDTX847.F2	PDSE	FB	80	8800
IBM.JDTX847.F3	PDSE	VB	256	3860
IBM.JDTX847.F4	PDSE	VB	128	6144
IBM.JDTX847.F5	PDSE	U	0	6144
IBM.JDTX847.F6	PDSE	U	0	6144

Figure 5. Program File Content for JDTX848

Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	8800
IBM.JDTX848.F1	PDSE	VB	128	6144

Figure 6. Program File Content for JDTX849				
Name	**O R G**	**R E C F M**	**L R E C L**	**BLK SIZE**
SMPMCS	SEQ	FB	80	8800
IBM.JDTX849.F1	PDSE	FB	80	8800
IBM.JDTX849.F2	PDSE	VB	1024	31744
IBM.JDTX849.F3	PDSE	VB	128	6144
IBM.JDTX849.F4	PDSE	U	0	6144

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Transformation Extender for z/OS.

2.3 Program Publications

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

There are no licensed program publications for Transformation Extender for z/OS.

Figure 7 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.

The following publications are available on CD only as part of publication LCD8-0592-04

Figure 7 (Page 1 of 2). Basic Material: Unlicensed Publications	
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
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

Figure 7 (Page 2 of 2). Basic Material: Unlicensed Publications	
Publication Title	**Form Number**
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

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

You might want to use the publications listed in Figure 8 during the installation of Transformation Extender for z/OS.

Figure 8 (Page 1 of 2). Publications Useful During Installation		
Publication Title	**Form Number**	**Media Format**
IBM SMP/E for z/OS User's Guide	SA22-7773	http://www.ibm.com/shop/ publications/order/
IBM SMP/E for z/OS Commands	SA22-7771	http://www.ibm.com/shop/ publications/order/
IBM SMP/E for z/OS Reference	SA22-7772	http://www.ibm.com/shop/ publications/order/
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA22-7770	http://www.ibm.com/shop/ publications/order/
CICS Customization Guide	GA22-7770	http://www.ibm.com/shop/ publications/order/
CICS Resource Guide	SC34-6430	http://www.ibm.com/shop/ publications/order/

Figure 8 (Page 2 of 2). Publications Useful During Installation		
Publication Title	**Form Number**	**Media Format**
z/OS Communications Server IP CICS Sockets Guide	SC31-8776	http://www.ibm.com/shop/ publications/order/
UNIX System Services Planning	GA22-7809	http://www.ibm.com/shop/ publications/order/
UNIX System Services Command Reference	SA22-7802	http://www.ibm.com/shop/ publications/order/
DB2 UDB for z/OS Administration Guide	SC18-7413	http://www.ibm.com/shop/ publications/order/
DB2 UDB for z/OS ODBC Guide and reference	SC18-7423	http://www.ibm.com/shop/ publications/order/
IMS Planning and Customiztion	SC18-7817	http://www.ibm.com/shop/ publications/order/
WebSphere MQ for z/OS System Administration Guide	SC34-6585	http://www.ibm.com/shop/ publications/order/

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 you install Transformation Extender for z/OS, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.ProductInstall-RequiredService fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.ProductInstall-RequiredService)** operand on the **APPLY CHECK command**. See 6.1.8, "Perform SMP/E APPLY" on page 22 for a sample APPLY command

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

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

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

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

For program support, access the Software Support Website at http://www-01.ibm.com/software/support/.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for Transformation Extender for z/OS are included in Figure 9

Figure 9 (Page 1 of 2). PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
TX	HDTX845	Transformation Extender-Common Components
TX	JDTX846	Transformation Extender with Command Server
TX	JDTX847	Transformation Extender for Application Programming
TX	JDTX848	Transformation Extender for Integration Servers

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Figure 9 (Page 2 of 2). PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
TX	JDTX849	Transformation Extender with Launcher

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 10 identifies the component IDs (COMPID) for Transformation Extender for z/OS.

Figure 10. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
HDTX845	5655R9500	Transformation Extender - Common Components	845
JDTX846	5655R9501	Transformation Extender with Command Servers	846
JDTX847	5655R9502	Transformation Extender for Application Programming	847
JDTX848	5655R9503	Transformation Extender for Integration Severs	848
JDTX849	5655R9504	Transformation Extender with Launcher	849

4.0 Program and Service Level Information

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

4.1 Program Level Information

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

- FMID HDTX845

PM59031	PM68853	PM77993
PM59613	PM68858	PM80238
PM64214	PM74308	PM80239
PM62498	PM74311	PM88925
PM62499	PM77991	PM88926
PM62663		

- FMID JDTX846

PM59032	PM68859	PM80257
PM62422	PM74315	PM88927
PM62500	PM78004	

- FMID JDTX847

PM59034	PM68863	PM80267
PM62426	PM74326	PM88928
PM62529	PM78008	

- FMID JDTX848

PM59048	PM68864	PM80268
PM62431	PM74328	PM88929
PM62530	PM78010	

- FMID JDTX849

PM59051	PM68865	PM80269
PM62531	PM74329	PM88930
PM62433	PM78011	

4.2 Service Level Information

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

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

Frequently check the Transformation Extender for z/OS PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the **FIXCAT(IBM.PRODUCTINSTALL-REQUIREDSERVICE)** operand on your APPLY CHECK command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

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 on which SMP/E is executed to install the program.

  The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.

- *Target system*: the system on which the program is configured and run.

  The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.

- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install 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 11. Driving System Software Requirements				
Program Number	**Product Name**	**Minimum VRM**	**Minimum Service Level will satisfy these APARs**	**Included in the shipped product?**
Any **one** of the following:				
5694-A01	z/OS	V01.12.00	N/A	No
5655-G44	IBM SMP/E for z/OS	V03.05.00	N/A	No

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

Transformation Extender for z/OS is installed into a file system, either HFS or zFS. Before installing Transformation Extender for z/OS, 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 Transformation Extender for z/OS 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 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 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

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

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

Figure 12. Target System Mandatory Installation Requisites				
Program Number	**Product Name**	**Minimum VRM**	**Minimum Service Level will satisfy these APARs**	**Included in the shipped product?**
5694-A01	z/OS	V01.12.00 or higher	N/A	No

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

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

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

5.2.2.2 Operational Requisites

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

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

Figure 13. Target System Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5694-A01	z/OS V01.12.00 or higher

Figure 14. Target System Mandatory Operational Requisites Transformation Extender for Integration Severs (FMID JDTX848	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following	
5697-P44	WebSphere Message Broker V08.00.00 or higher - requires PTFS UK93139, UK93140, UK93143, UK93145
5655-IBB	IBM Integration Bus V09.00.00
5655-IBC	IBM Integration Bus Standard Edition V09.00.00
5655-Y02	IBM Business Manager Advanced for z/OS V08.00.00 or higher

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.

Figure 15. Target System Conditional Operational Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
Any **one** of the following:		
5655-M15	CICS Transaction Server for z/OS V03.01.00 or higher	CICS with XPLINK support
5655-S97	CICS Transaction Server for z/OS V04.01.00 or higher	CICS with XPLINK support
Any **one** of the following:		
5635-A02	IMS V11.01.00 or higher	IMS support
5635-A03	IMS V12.01.00 or higher	IMS support
5655-R36	WebSphere MQ for z/OS V07.00.01 or higher	MQ support
5694-A01	USS on z/OS V01.12.00 or later	Unix System Services must be active
Any **one** of the following:		
5635-DB2	DB2 for z/OS V9.01.00 or higher	DB2 (REQUIRED for 64-bit support)
5697-P12	DB2 VUE for z/OS V09.01.00 or higher	DB2
5605-DB2	DB2 for z/OS V10.01.00 or higher	DB2
5697-P31	DB2 VUE for z/OS V10.01.00 or higher	DB2

Figure 16 (Page 1 of 2). Conditional Operational Requisites Transformation Extender with Launcher	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following:	
5655-R31	IBM 31-bit JAVA SDK for z/OS V06.00.00 SR13 FP2 or higher
5655-R32	IBM 64-bit JAVA SDK for z/OS V06.00.00 SR13 FP2 or higher
5655-R31	IBM 31-bit JAVA SDK for z/OS V06.00.01 SR5 FP2 or higher
5655-R32	IBM 64-bit JAVA SDK for z/OS V06.00.01 SR5 FP2 or higher
5655-W43	IBM 31-bit JAVA SDK for z/OS V07.00.00 SR4 FP2 or higher

Figure 16 (Page 2 of 2). Conditional Operational Requisites Transformation Extender with Launcher	
Program Number	**Product Name and Minimum VRM/Service Level**
5655-W44	IBM 64-bit JAVA SDK for z/OS V07.00.00 SR4 FP2 or higher

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.

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

5.2.2.4 Incompatibility (Negative) Requisites

Negative requisites identify products that must *not* be installed on the same system as this product.

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 17 lists the total space that is required for each type of library.

Figure 17. Total DASD Space Required by Transformation Extender for z/OS		
Library Type	**Total Space Required in 3390 Trks**	**File System Description**
Target	3200	Target Datsets
Distribution	3400	Distribution Datasets
File System(s)	9800	/usr/lpp/dtx/V8R4M1 zFS or HFS file system

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 6.1.5, "Allocate SMP/E Target and Distribution Libraries" on page 21.

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

   N   New path, created by this product.
   X   Path created by this product, but might already exist from a previous release.
   P   Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

   - The default name of the data set can be changed.
   - The default block size of the data set can be changed.
   - The data set can be merged with another data set that has equivalent characteristics.
   - The data set can be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

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

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

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

Figure 18. Storage Requirements for SMP/E Data Sets							
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**
SMPLTS		E	PDSE	U	0	150	-
SMPMTS		E	PDS	FB	80	150	50
SMPPTS		E	PDSE	FB	80	16000	N/A
SMPSCDS		E	PDS	FB	80	150	50
SMPSTS		E	PDS	FB	80	150	50

The following figures describe the target and distribution libraries and file system 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 that have data in the same library or path.

Note: Use the data in these tables to determine which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 19. Storage Requirements for Transformation Extender 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**
SDTXCLST	Sample	TVOL2	U	PDSE	FB	80	2	-
SDTXCNFG	Sample	TVOL2	U	PDSE	VB	1024	2	-
SDTXLOAD	LMOD	TVOL1	U	PDSE	U	0	1500	-
SDTXLOD2	LMOD	TVOL1	U	PDSE	U	0	550	-
SDTXMAPS	Sample	TVOL2	U	PDSE	VB	256	10	-
SDTXPENU	Sample	TVOL2	U	PDSE	FB	80	4	-
SDTXSAMP	Sample	TVOL2	U	PDSE	FB	80	40	-
SGTXLOAD	LMOD	TVOL1	U	PDSE	U	0	1000	-

Figure 20. Transformation Extender for z/OS File System Paths		
DDNAME	TYPE	Path Name
SDTXHFX	N	/usr/lpp/dtx/V8R4M1/IBM

Figure 21. Storage Requirements for Transformation Extender for z/OS Distribution Libraries						
Library DDNAME	TYPE	ORG	RECFM	LRECL	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	800	-
ADTXLOAD	U	PDSE	U	0	1500	-
ADTXLOD2	U	PDSE	U	0	600	-
ADTXMAPS	U	PDSE	VB	256	9	-
ADTXPENU	U	PDSE	FB	80	4	-
ADTXSAMP	U	PDSE	FB	80	40	-
AGTXLOAD	U	PDSE	U	0	1000	-

5.3 FMIDs Deleted

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

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

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

5.4 Special Considerations

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 points:

- 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.

- 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 Transformation Extender for z/OS

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

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

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 22. 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 22. SMP/E Options Subentry Values		
Subentry	**Value**	**Comment**
DSSPACE	(800,500,100)	Specifies the primary and secondary (in Tracks) and the number of directory blocks to be allocated for each SMPTLIB dataset.
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:

Job Name	Job Type	Description	RELFILE
Figure 23. Sample Installation Jobs			
DTXALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HDTX845.F3
DTXISMKD	MKDIR	Sample job to invoke the supplied DTXMKDIR EXEC to allocate file system paths	IBM.HDTX845.Fy
DTXDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HDTX845.F3
DTXAPPLY	APPLY	Sample APPLY job	IBM.HDTX845.F3
DTXACCPT	ACCEPT	Sample ACCEPT job	IBM.HDTX845.F3

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.4, "Perform SMP/E RECEIVE" on page 21) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 23 to find the appropriate relfile data set.

6.1.4 Perform SMP/E RECEIVE

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

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 success if RC=0 is received.

6.1.6 Allocate File system 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/V8R4M1/IBM*.

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

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

Expected Return Codes and Messages: The job is success if RC=0 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 success if RC=0 is received.

6.1.8 Perform SMP/E APPLY

1. Ensure that you have the latest 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.

   The latest HOLDDATA is available through several different portals, including http://service.software.ibm.com/holddata/390holddata.html. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

   You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

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

   Here are sample APPLY commands (also found in your DTXAPPLY jcl):

a. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your environment and if you should bypass the specific ERROR HOLDs in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

b. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
  ..any other parameters documented in the program directory
```

This method is the quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDs during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

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

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

Expected Return Codes and Messages from APPLY CHECK: 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.

6.1.9 Perform SMP/E ACCEPT

Edit and submit sample job DTXACCPT to perform an SMP/E ACCEPT CHECK for Transformation Extender for z/OS. Consult the instructions in the sample job for more information.

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 PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. The SMP/E root cause analysis identifies the cause of only *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

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

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

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

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

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

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

6.1.10 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 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 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 Transformation Extender for z/OS

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

Transformation Extender for z/OS is fully operational after the SMP/E installation is completed. You do not have to do further customization to activate this function.

6.3 General Information

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

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/wda). 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 adapter-specific documentation.

6.4 HDTX845 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/wda).

6.4.2 Installation Verification Program (IVP) steps

There are no required IVP steps.

6.5 JDTX846 Transformation Extender with Command Servers

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
- The job is successful if RC=0 is received

DTXDMRME (Optional)

- DB2 Map example
- run only if you will be using the DB2 adapter
- The job is successful if RC=0 is received

DTXMQRME (Optional)

- WebSphere MQ example
- run only if you will be using the IBM WebSphere MQ adapter
- The job is successful if RC=0 is received

DTXMSRME (Optional)

- Resource Registry example

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

- The job is successful if RC=0 is received

6.6 JDTX847 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/wda).

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/wda).

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 successful if RC=0 is received

DTXCDRME (Optional)

- DB2 Map example

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

- The job is successful if RC=0 is received

DTXCMRME (Optional)

- WebSphere MQ example

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

- The job is successful if RC=0 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/wda)

- The job is successful if RC=0 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/wda).

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 successful if RC=0 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 successful if RC=0 is received

6.8 UNIX Systems 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/wda).

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

There are no required IVP steps.

6.10 JDTX848 Transformation Extender for Integration Severs

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 Integration Server Release Notes that are posted on the product Web site (http://www.ibm.com/software/integration/wda).

6.11 Installation Verification Program (IVP) steps

There are no required IVP steps.

6.12 JDTX849 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 IBM WebSphere Transformation Extender z/OS Configuration Guide, posted on the product Web site (http://www.ibm.com/software/integration/wda).

6.12.2 Installation Verification Program (IVP) steps

There are no required IVP steps.

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