



**Program Directory for
IBM Transaction Analysis Workbench for z/OS**

V01.03.00

Program Number 5697-P37

FMID HAHO130

for use with
z/OS

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Note

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

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1.0 Introduction

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

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 5 identifies the basic program materials and documentation for Transaction Analysis Workbench.
- 3.0, “Program Support” on page 8 describes the IBM support available for Transaction Analysis Workbench.
- 4.0, “Program and Service Level Information” on page 10 lists the APARs (program level) and PTFs (service level) that have been incorporated into Transaction Analysis Workbench.
- 5.0, “Installation Requirements and Considerations” on page 11 identifies the resources and considerations that are required for installing and using Transaction Analysis Workbench.
- 6.0, “Installation Instructions” on page 20 provides detailed installation instructions for Transaction Analysis Workbench. It also describes the procedures for activating the functions of Transaction Analysis Workbench, or refers to appropriate publications.

Before installing Transaction Analysis Workbench, 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.

Transaction Analysis Workbench 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 Transaction Analysis Workbench are included on the CBPDO tape.

Do not use this program directory if you install Transaction Analysis Workbench 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 Transaction Analysis Workbench Description

IBM Transaction Analysis Workbench for z/OS, V1.3 (5697-P37) is a performance management tool that assists in analyzing transaction performance and behavioral problems by providing a complete platform for obtaining, consolidating, and investigating the logs and other historical data collected during transaction processing and system operation.

Transaction processing is often complex. Increasingly, applications interact with external subsystems and rely on system services. Pinpointing the cause of a problem can be difficult. Transaction Analysis Workbench extends the scope of traditional analysis techniques, helping you to more easily identify problems that span subsystems or that are caused by external events.

Transaction Analysis Workbench helps simplify the problem analysis process:

Session manager

The session manager is a dialog where problem details can be registered and analysis can be performed. The session manager saves a history of the investigation undertaken by all participants, making it simpler to resume or reassign the analysis. The session manager can be accessed from:

- ISPF dialog
- Eclipse-based GUI

Automated file selection

Locating the log files required for analysis can be a tedious manual process. Automated file selection locates the required IMS, DB2, or other log files, and attaches them to your problem session.

Interactive log file analysis

Transaction Analysis Workbench can analyze all the log files associated with the problem, presenting them in a unified interactive investigative session. The following types of log data are supported:

- For IMS: The IMS log, IMS monitor, CQS log, and the IMS Connect event journal, as well as the OMEGAMON for ATF journal
- For CICS: The CICS monitoring facility (CMF) records in SMF, as well as the CICS trace
- For DB2: The DB2 log and the DB2 trace, including support for all performance and accounting IFCID events
- The WebSphere MQ log and extract
- Selected SMF record types applicable to problem analysis
- OPERLOG, the MVS SYSLOG log stream, to identify messages that might indicate an exception

Support for big data platforms

Support your enterprise-wide strategy for centralizing log archiving and analysis by including z/OS logs in that strategy. Transaction Analysis Workbench provides an extract, transform, and load (ETL) process for SMF and other subsystem logs generated on z/OS. The process is schedulable and works seamlessly with z/OS UNIX files and MVS sequential data sets. Both push and pull data transfer mechanisms are supported. HCatalog table schemas are created for use with software based on Hadoop, such as IBM InfoSphere BigInsights and Cloudera's Hadoop offerings; other configuration files are also supported for loading into a variety of other analysis engines.

Transaction tracking

Interactive analysis enables the tracking of an individual transaction, identifying all its log records in all file types to provide the complete lifecycle. For example:

- CICS with DBCTL: From a CICS transaction, view the associated IMS log events.
- CICS or IMS with DB2: From a CICS or IMS transaction, view the associated DB2 accounting and performance trace events.

Exception analysis

Exception analysis provides a way of identifying problems based on user-defined thresholds. Locating the offending transaction can be simpler from this reduced set of candidates. Reports and extracts can be requested for the following workloads:

- DB2: Response and CPU times, stored procedure calls, SQL activity, suspend and locking, buffer usage, and other abnormal conditions
- CICS or IMS: Response time and abnormal conditions

Workflows

Allow subject matter experts (SMEs) to define set workflows for problem determination. A workflow may consist of log selection and extraction tasks, log reporting, and explanatory instructions. First responders and non-experts can use the workflow for problem determination using either the ISPF dialog or the Transaction Analysis Workbench Eclipse plug-in.

Reporting

Transaction Analysis Workbench uses its own batch reporting utility and other separately available reporting tools and utilities to help investigate all facets of the problem:

- IMS transaction performance and system analysis, using the separately licensed IBM IMS Performance Analyzer for z/OS
- CICS transaction performance analysis, using the separately licensed IBM CICS Performance Analyzer for z/OS
- Specialized CICS-DBCTL transaction performance analysis, combining CICS CMF and the IMS log
- MVS system-level analysis, including address space activity, system resource utilization for CPU processors, virtual storage and page data sets, as well as MVS system logger and DASD data set performance
- DB2 thread accounting, including SQL call elapsed time breakdown
- WebSphere MQ thread accounting, including GET and PUT call counts and CPU usage
- APPC/MVS transaction performance analysis

New features and enhancements provided with Transaction Analysis Workbench for z/OS, V1.3:

Big data integration

Provides support for analysis of z/OS transactional log data by big data engines. Transaction Analysis Workbench provides an extract, transform and load process for getting SMF and other log data into these analysis engines.

- **Mobile workload pricing:** Provides IBM Mobile Workload Reporting Tool (MWRT) with mobile CPU utilization and mobile workload tagging for CICS, IMS, DB2, WebSphere MQ and WebSphere Application Server subsystems.
- **Extended exception analysis:** Enhanced exception reporting and analytics. Allowing you to use signatures to build exceptions and simplify analysis of logs.
- **Support for IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS, V5.2 (5655-W37)** (separately licensed): Offers automated file selection as well as reporting and analysis for the

near-term history files produced by IBM Tivoli,, OMEGAMON,, XE for DB2 Performance Expert on z/OS.

- **CICS trace usability enhancements:** Various usability enhancements to the CICS trace.
- **IMS Version 14 support:** Transaction Analysis Workbench for z/OS includes support for IMS V14 features.

1.2 Transaction Analysis Workbench FMID

Transaction Analysis Workbench consists of the following FMID:

HAHO130

2.0 Program Materials

An IBM program is identified by a program number. The program number for Transaction Analysis Workbench is 5697-P37.

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

The program announcement material describes the features supported by Transaction Analysis Workbench. 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 Transaction Analysis Workbench in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for Transaction Analysis Workbench. 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.

Figure 1 (Page 1 of 2). Program File Content

Name	O R G	R E C F M	L R E C L	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.HAHO130.F1	PDS	FB	80	8800
IBM.HAHO130.F2	PDS	FB	80	8800
IBM.HAHO130.F3	PDS	FB	80	8800
IBM.HAHO130.F4	PDS	U	0	6144
IBM.HAHO130.F5	PDS	FB	80	8800

Figure 1 (Page 2 of 2). Program File Content

Name	O R G	R E C F M	L R E C L	BLK SIZE
IBM.HAHO130.F6	PDS	VB	255	27998
IBM.HAHO130.F7	PDS	FB	80	8800
IBM.HAHO130.F8	PDS	FB	80	8800
IBM.HAHO130.F9	PDS	FB	80	8800
IBM.HAHO130.F10	PDS	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Transaction Analysis Workbench.

2.3 Program Publications

The following sections identify the basic publications for Transaction Analysis Workbench.

Figure 2 identifies the basic unlicensed publications for Transaction Analysis Workbench. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at: <http://www.ibm.com/shop/publications/order/>

Figure 2. Basic Material: Unlicensed

Publication Title	Form Number	Media Format
IBM Transaction Analysis Workbench for z/OS License Information	GC19-2921	http://www.ibm.com/software/sla/sladb.nsf
IBM Transaction Analysis Workbench for z/OS User's Guide	SC27-6747	http://www.ibm.com/support/docview.wss?uid=swg27020942

2.3.1 Optional Program Publications

No optional publications are provided for Transaction Analysis Workbench.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Transaction Analysis Workbench.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of Transaction Analysis Workbench.

<i>Figure 3. Publications Useful During Installation</i>		
Publication Title	Form Number	Media Format
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883	http://www.ibm.com/shop/publications/order/
<i>IBM Common Services Library for z/OS User's Guide</i>	SC27-6753	http://www.ibm.com/support/docview.wss?uid=swg27020942

3.0 Program Support

This section describes the IBM support available for Transaction Analysis Workbench.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install Transaction Analysis Workbench, 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 6.1.10, "Perform SMP/E APPLY" on page 24 for a sample APPLY command.

If you obtained Transaction Analysis Workbench as part of a CBPDO, HOLDDATA is included.

If the CBPDO for Transaction Analysis Workbench 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 Transaction Analysis Workbench are included in Figure 4.

Figure 4. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5697P37	HAHO130	Transaction Analysis Workbench for z/OS

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 5 on page 9 identifies the component IDs (COMPID) for Transaction Analysis Workbench.

<i>Figure 5. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
HAHO130	5697P3700	IBM Trans Analys WB	130

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Transaction Analysis Workbench. 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 Transaction Analysis Workbench have been incorporated into this release. They are listed by FMID.

- FMID HAHO120

PI29291

PI25744

PI19533

4.2 Service Level Information

No PTFs against this release of Transaction Analysis Workbench have been incorporated into the product package.

Frequently check the Transaction Analysis Workbench 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-REQUIRESERVICE)** 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 Transaction Analysis Workbench. 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 Transaction Analysis Workbench.

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 6. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
Any one of the following:				
5694-A01	z/OS	V01.13.00	N/A	No
5650-ZOS	z/OS	V02.01.00	N/A	No

Note: SMP/E is a requirement for Installation and is an element of z/OS but can also be ordered as a separate product, 5655-G44, minimally V03.06.00.

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

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Transaction Analysis Workbench.

Transaction Analysis Workbench can be installed in any of the following SRELs.

- z/OS (Z038)
- DBS (P115)
- CICS (C150)

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.

Transaction Analysis Workbench has no mandatory installation requisites.

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.

Transaction Analysis Workbench 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.

Transaction Analysis Workbench has no mandatory operational requisites.

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

<i>Figure 7 (Page 1 of 2). Target System Conditional Operational Requisites</i>		
Program Number	Product Name and Minimum VRM/Service Level	Function
5655-CSL ¹	IBM Common Services Library for z/OS, V01.01.00	For the Eclipse plug-in and for using the Transaction Analysis Workbench GUI function
5655-W37	IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS, V05.02.00	For automated file selection as well as reporting and analysis for the near-term history files produced by Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS
Any one of the following:		
5698-A34	IBM Tivoli OMEGAMON XE for IMS on z/OS, V04.02.00	For collecting OMEGAMON ATF data
5698-T02	IBM Tivoli OMEGAMON XE for IMS on z/OS, V05.01.00	For collecting OMEGAMON ATF data
Transaction Analysis Workbench is designed to utilize the reporting capabilities of the following products:		
5655-Y23	IBM CICS Performance Analyzer for z/OS, V05.01.00 or higher	For running in-depth CICS CMF reporting
Any one of the following:		
5655-R03	IBM IMS Performance Analyzer for z/OS, V04.03.00 or higher	For in-depth IMS log and monitor reporting
5655-S42 ²	IBM IMS Performance Solution Pack for z/OS, V01.02.00 or higher	For in-depth IMS log and monitor reporting
Any one of the following:		

Figure 7 (Page 2 of 2). Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5655-S56	IBM IMS Connect Extensions for z/OS, V02.03.00 or higher	For collecting IMS Connect event data
5655-S42 ²	IBM IMS Performance Solution Pack for z/OS, V01.02.00 or higher	For collecting IMS Connect event data
Transaction Analysis Workbench is designed to operate with WebSphere, CICS, DB2, and IMS and their supported versions as follows:		
5655-R36	IBM WebSphere MQ for z/OS, V07.01.00, or higher	For operating with WebSphere
Any one of the following:		
5655-S97	IBM CICS Transaction Server for z/OS, V04.02.00	For operating with CICS
5655-Y04	IBM CICS Transaction Server for z/OS, V05.01.00, or higher	For operating with CICS
5722-DFJ	IBM CICS Transaction Server for z/OS Value Unit Edition, V05.01.00, or higher	For operating with CICS
Any one of the following:		
5605-DB2	IBM DB2 for z/OS, V10.01.00	For operating with DB2
5697-P31	IBM DB2 for z/OS Value Unit Edition, V10.01.00	For operating with DB2
5615-DB2	IBM DB2 for z/OS, V11.01.00 or higher	For operating with DB2
5697-P43	IBM DB2 for z/OS Value Unit Edition, V11.01.00 or higher	For operating with DB2
Any one of the following:		
5635-A03	IBM IMS, V12.01.00	For operating with IMS
5655-DSQ	IBM IMS Database Value Unit Edition, V12.01.00 with PTF UK93908	For operating with IMS
5655-TM1	IBM IMS Transaction Manager Value Unit Edition, V12.01.00	For operating with IMS
5635-A04	IBM IMS, V13.01.00	For operating with IMS
5655-DSM	IBM IMS Database Value Unit Edition, V13.01.00	For operating with IMS
5655-TM2	IBM IMS Transaction Manager Value Unit Edition, V13.01.00	For operating with IMS
5635-A05*	IBM IMS, V14.01.00	For operating with IMS
* Note: Refer to the IMS V14 Software Announcement for more information or talk to your IBM representative.		

Note:

1. Refer to 5.4, “Special Considerations” on page 18 for more details regarding Common Services Library and migration considerations.

2. IMS Performance Solution Pack for z/OS, V1.2 (5655-S42) or later contains IMS Connect Extensions for z/OS, V2.3 or later and IMS Performance Analyzer for z/OS, V4.3 or later and satisfies the conditional operational requirements stated in Figure 7 on page 13.

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.

Transaction Analysis Workbench 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.

Transaction Analysis Workbench has no negative requisites.

5.2.3 DASD Storage Requirements

Transaction Analysis Workbench libraries can reside on all supported DASD types.

Figure 8 lists the total space that is required for each type of library.

<i>Figure 8. Total DASD Space Required by Transaction Analysis Workbench</i>	
Library Type	Total Space Required in 3390 Trks
Target	2365 Tracks
Distribution	2365 Tracks

Notes:

1. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization. For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from the performance and DASD utilization perspective.
2. Abbreviations used for data set types are shown as follows.
 - U** Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.
 - S** Shared data set, allocated by this product and used by this product and other products. To determine the correct storage needed for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

- E** Existing shared data set, used by this product and other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information about the names and sizes of the required data sets, see 6.1.8, "Allocate SMP/E Target and Distribution Libraries" on page 23.

3. 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.
4. 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.
5. 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, except for SFUWLINK, which must be APF-authorized.

The following figures describe the target and distribution libraries required to install Transaction Analysis Workbench. The storage requirements of Transaction Analysis Workbench must be added to the storage required by other programs that have data in the same library.

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 9. Storage Requirements for Transaction Analysis Workbench Target Libraries

Library DDNAME	Member Type	Target Volume	TYP E	ORG	RECFM	LEN	No. of 3390 Trks	No. of DIR Blks
SFUWBASE	Sample	Any	U	PDS	FB	80	10	2
SFUWEXEC	Exec	Any	U	PDS	FB	80	30	3
SFUWGENU	Data	Any	U	PDS	VB	255	60	3
SFUWLINK	LMOD	Any	U	PDS	U	0	2100	330
SFUWMENU	Message	Any	U	PDS	FB	80	15	15
SFUWPENU	Panel	Any	U	PDS	FB	80	120	50
SFUWSAMP	Sample	Any	U	PDS	FB	80	10	3
SFUWSENU	Skeleton	Any	U	PDS	FB	80	10	5
SFUWTENU	Table	Any	U	PDS	FB	80	10	2

Figure 10. Storage Requirements for Transaction Analysis Workbench Distribution Libraries

Library DDNAME	TYP E	ORG	RECFM	LEN	No. of 3390 Trks	No. of DIR Blks
AFUWBASE	U	PDS	FB	80	10	2
AFUWEXEC	U	PDS	FB	80	30	3
AFUWGENU	U	PDS	VB	255	60	3
AFUWLINK	U	PDS	U	0	2100	330
AFUWMENU	U	PDS	FB	80	15	15
AFUWPENU	U	PDS	FB	80	120	50
AFUWSAMP	U	PDS	FB	80	10	3
AFUWSENU	U	PDS	FB	80	10	5
AFUWTENU	U	PDS	FB	80	10	2

5.3 FMIDs Deleted

Installing Transaction Analysis Workbench 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 Transaction Analysis Workbench 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

Transaction Analysis Workbench for z/OS provides access to problem session functions through Eclipse-based user interfaces. The Transaction Analysis Workbench plug-in for IBM Explorer for z/OS provides a graphical user interface (GUI) to some of the functions provided by the Transaction Analysis Workbench ISPF dialog. It can be used to view or create sessions, submit batch jobs on z/OS for session workflow tasks, and view the output of those batch jobs.

The plug-in delivered with Transaction Analysis Workbench communicates via the Common Services Library Server (formerly known as IBM Functional Support Library Server), a component which is supplied with the separately licensed IBM Common Services Library for z/OS, V1.1 (5655-CSL).

Common Services Library for z/OS (5655-CSL) is a no-charge offering.

Note: The Common Services Library Server component was formerly known as IBM Functional Support Library Server delivered with IBM IMS Connect Extensions for z/OS, V2.4 (5655-S56) and IBM Tools Base for z/OS, V1.5 (5655-V93).

Refer to the IBM Common Services Library for z/OS, V1.1 User's Guide, SC27-6753, for information on installing the Eclipse client. This client must be installed first (before installing the plug-in).

Refer to the IBM Transaction Analysis Workbench for z/OS, V1.3 User's Guide, SC27-6747, Chapter "Installing the plug-in" as well as to FUWREAD (a member of the SFUWGENU library) for additional information.

Common Services Library Server (formerly known as Functional Support Library Server) Migration Considerations

The IBM Functional Support Library Server component, FMID H30S240, is delivered as part of IBM IMS Connect Extensions for z/OS, V2.4 and earlier (5655-S56). It is also part of IBM IMS Performance Solution Pack for z/OS, V1.3 and earlier (5655-S42) and is included in IBM Tools Base for z/OS, V1.5 (5655-V93).

The Common Services Library Server component delivered in IBM Common Services Library for z/OS, V1.1 (5655-CSL) supersedes the Functional Support Library Server component, FMID H30S240 and its predecessors.

If you have previously installed Common Services Library for z/OS in the same SMP/E CSI where you are installing IMS Connect Extensions for z/OS, you will receive message:

```
GIM37901E ** APPLY PROCESSING FAILED FOR SYSMOD H30S240 BECAUSE IT WAS PREVIOUSLY SUPERSEDED.
```

This is expected and the error condition can be ignored.

If you install Common Services Library for z/OS in the same SMP/E CSI after you have installed IMS Connect Extensions for z/OS, FMID H30S240 is deleted from your SMP/E CSI environment.

This is expected and acceptable.

If you install Common Services Library for z/OS in a different SMP/E CSI than where you install IMS Connect Extensions for z/OS, both FMIDs, H30S240 and H30SA10, will be installed.

This is not recommended.

All products that function with Functional Support Library Server also function with Common Services Library Server delivered with IBM Common Services Library for z/OS.

Non-z/OS Hardware Requirements:

Any hardware that is capable of running Windows Vista (32-bit) or Windows 7 (32-bit) or Windows 7 (64-bit) with a minimum of:

- 1.5 GB memory
- A minimum of 350 MB free disk space for product package installation

Non-z/OS Software Requirements:

Windows Vista (32-bit) or Windows 7 (32-bit) or Windows 7 (64-bit) operating 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 Transaction Analysis Workbench.

Please note the following points:

- If you want to install Transaction Analysis Workbench 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 Transaction Analysis Workbench

6.1.1 SMP/E Considerations for Installing Transaction Analysis Workbench

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Transaction Analysis Workbench.

6.1.2 SMP/E Options Subentry Values

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

Figure 11. SMP/E Options Subentry Values

Subentry	Value	Comment
DSSPACE	(200,200,500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 SMP/E CALLLIBS Processing

Transaction Analysis Workbench uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When Transaction Analysis Workbench is installed, ensure that DDDEFs exist for the following libraries:

- SCEELKED

Note: CALLLIBS uses the previous DDDEFs only to resolve the link-edit for Transaction Analysis Workbench. These data sets are not updated during the installation of Transaction Analysis Workbench.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install Transaction Analysis Workbench:

<i>Figure 12. Sample Installation Jobs</i>			
Job Name	Job Type	Description	RELFILE
FUWALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set (Optional)	IBM.HAHO130.F2
FUWALB	SMP/E	Sample job to allocate SMP/E data sets (Optional)	IBM.HAHO130.F2
FUWRECEV	RECEIVE	Sample RECEIVE job	IBM.HAHO130.F2
FUWALOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HAHO130.F2
FUWDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HAHO130.F2
FUWAPPLY	APPLY	Sample APPLY job	IBM.HAHO130.F2
FUWACCEP	ACCEPT	Sample ACCEPT job	IBM.HAHO130.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, “Perform SMP/E RECEIVE” on page 23) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 12 to find the appropriate relfile data set.

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

```
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//*****
//* Make the //TAPEIN DD statement below active if you install*
//* from a CBPDO tape by uncommenting the DD statement below. *
//*****
//*TAPEIN DD DSN=IBM.HAHO130.F2,UNIT=tunit,
```

```

/*          VOL=SER=volser, LABEL=(x,SL),
/*          DISP=(OLD,KEEP)
/******
/* Make the //TAPEIN DD statement below active if you install*
/* from a product tape received outside the CBPDO process   *
/* (using the optional SMP/E RECEIVE job) by uncommenting   *
/* the DD statement below.                                  *
/******
/*TAPEIN   DD DSN=IBM.HAHO130.F2,UNIT=tunit,
/*          VOL=SER=AH0130, LABEL=(3,SL),
/*          DISP=(OLD,KEEP)
/******
/* Make the //FILEIN DD statement below active for          *
/* downloaded DASD files.                                  *
/******
/*FILEIN   DD DSN=IBM.HAHO130.F2,UNIT=SYSALLDA,DISP=SHR,
/*          VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name,
//          DISP=(NEW,CATLG,DELETE),
//          VOL=SER=dasdvol,UNIT=SYSALLDA,
//          SPACE=(TRK,(20,10,5))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
          COPY INDD=xxxxIN,OUTDD=OUT
/*

```

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

TAPEIN:

- tunit** is the unit value that matches the product package.
- volser** is the volume serial that matches the product package.
- x** is the tape file number that indicates the location of the data set name on the tape.
- See the documentation that is provided by CBPDO for the location of IBM.HAHO130.F2 on the tape.

FILEIN:

- filevol** is the volume serial of the DASD device where the downloaded files reside.

OUT:

- jcl-library-name** is the name of the output data set where the sample jobs are stored.
- dasdvol** is the volume serial of the DASD device where the output data set resides.

SYSIN:

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

6.1.5 Allocate SMP/E CSI (Optional)

If you are using an existing CSI, do not execute this job.

If you are allocating a new SMP/E data set for this install, edit and submit sample job FUWALA to allocate the SMP/E data set for Transaction Analysis Workbench. Consult the instructions in the sample job for more information.

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

6.1.6 Initialize CSI zones (Optional)

If you are using an existing CSI, do not execute this job.

Edit and submit sample job FUWALB to initialize SMP/E zones for Transaction Analysis Workbench. Consult the instructions in the sample job for more information.

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

6.1.7 Perform SMP/E RECEIVE

If you have obtained Transaction Analysis Workbench as part of a CBPDO, use the RCPDO job in the CBPDO RIMLIB data set to receive the Transaction Analysis Workbench FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit sample job FUWRECEV to perform the SMP/E RECEIVE for Transaction Analysis Workbench. Consult the instructions in the sample job for more information.

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

6.1.8 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job FUWALLOC to allocate the SMP/E target and distribution libraries for Transaction Analysis Workbench. Consult the instructions in the sample job for more information.

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

6.1.9 Create DDDEF Entries

Edit and submit sample job FUWDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Transaction Analysis Workbench. Consult the instructions in the sample job for more information.

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

6.1.10 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job FUWAPPLY to perform an SMP/E APPLY CHECK for Transaction Analysis Workbench. Consult the instructions in the sample job for more information.

The latest HOLDDATA is available through several different portals, including <http://service.software.ibm.com/holdata/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:

- 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),HOLDFIXCAT) .
..any other parameters documented in the program directory

```

This method is 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.

6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job FUWACCEP to perform an SMP/E ACCEPT CHECK for Transaction Analysis Workbench. Consult the instructions in the sample job for more information.

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

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

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

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

Expected Return Codes and Messages from ACCEPT CHECK: 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.

6.1.12 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 Transaction Analysis Workbench, 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 Transaction Analysis Workbench

6.2.1 Product Customization

The publication *IBM Transaction Analysis Workbench for z/OS User's Guide* (SC27-6747) contains the necessary information to customize and use Transaction Analysis Workbench.

7.0 Notices

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APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

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