



Program Directory for IBM IMS Problem Investigator for z/OS

V02.05.00

Program Number 5655-R02

FMID H28T250

for Use with
z/OS

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GI10-8704-04

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 24.

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Contents

1.0 Introduction	1
1.1 IMS Problem Investigator Description	1
1.2 IMS Problem Investigator FMID	2
2.0 Program Materials	3
2.1 Basic Machine-Readable Material	3
2.2 Optional Machine-Readable Material	4
2.3 Program Publications	4
2.3.1 Optional Program Publications	4
2.4 Program Source Materials	4
2.5 Publications Useful During Installation	5
3.0 Program Support	6
3.1 Program Services	6
3.2 Preventive Service Planning	6
3.3 Statement of Support Procedures	7
4.0 Program and Service Level Information	8
4.1 Program Level Information	8
4.2 Service Level Information	9
5.0 Installation Requirements and Considerations	10
5.1 Driving System Requirements	10
5.1.1 Machine Requirements	10
5.1.2 Programming Requirements	10
5.2 Target System Requirements	11
5.2.1 Machine Requirements	11
5.2.2 Programming Requirements	11
5.2.2.1 Installation Requisites	11
5.2.2.2 Operational Requisites	12
5.2.2.3 Toleration/Coexistence Requisites	13
5.2.2.4 Incompatibility (Negative) Requisites	13
5.2.3 DASD Storage Requirements	13
5.3 FMIDs Deleted	16
5.4 Special Considerations	16
6.0 Installation Instructions	17
6.1 Installing IMS Problem Investigator	17
6.1.1 SMP/E Considerations for Installing IMS Problem Investigator	17
6.1.2 SMP/E Options Subentry Values	17
6.1.3 SMP/E CALLLIBS Processing	18
6.1.4 Sample Jobs	18

6.1.5 Allocate SMP/E CSI (Optional)	19
6.1.6 Initialize CSI zones (Optional)	19
6.1.7 Perform SMP/E RECEIVE	19
6.1.8 Allocate SMP/E Target and Distribution Libraries	19
6.1.9 Create DDDEF Entries	20
6.1.10 Perform SMP/E APPLY	20
6.1.11 Perform SMP/E ACCEPT	21
6.1.12 Run REPORT CROSSZONE	22
6.1.13 Cleaning Up Obsolete Data Sets, Paths, and DDDEFs	22
6.2 Activating IMS Problem Investigator	22
6.2.1 Product Customization	23
7.0 Notices	24
7.1 Trademarks	24
Reader's Comments	25

Figures

1. Program File Content for H28T250 - IMS Problem Investigator	3
2. Basic Material: Unlicensed	4
3. Publications Useful During Installation	5
4. PSP Upgrade and Subset ID	6
5. Component IDs	7
6. Driving System Software Requirements	11
7. Target System Mandatory Operational Requisites	12
8. Target System Conditional Operational Requisites	12
9. Total DASD Space Required by IMS Problem Investigator	13
10. Storage Requirements for IMS Problem Investigator Target Libraries	15
11. Storage Requirements for IMS Problem Investigator Distribution Libraries	15
12. SMP/E Options Subentry Values	17
13. Sample Installation Jobs	18

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 IMS Problem Investigator for z/OS. This publication refers to IBM IMS Problem Investigator for z/OS as IMS Problem Investigator.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for IMS Problem Investigator.
- 3.0, “Program Support” on page 6 describes the IBM support available for IMS Problem Investigator.
- 4.0, “Program and Service Level Information” on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into IMS Problem Investigator.
- 5.0, “Installation Requirements and Considerations” on page 10 identifies the resources and considerations that are required for installing and using IMS Problem Investigator.
- 6.0, “Installation Instructions” on page 17 provides detailed installation instructions for IMS Problem Investigator. It also describes the procedures for activating the functions of IMS Problem Investigator, or refers to appropriate publications.

Before installing IMS Problem Investigator, 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 6 tells you how to find any updates to the information and procedures in this program directory.

IMS Problem Investigator 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 IMS Problem Investigator are included on the CBPDO tape.

Do not use this program directory if you install IMS Problem Investigator 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 IMS Problem Investigator Description

IBM IMS Problem Investigator for z/OS, V2.5 (5655-R02), is a problem analysis tool for IMS Database and IMS Transaction Manager systems. It helps IMS systems and application programmers determine the cause of problems and trace the end-to-end flow of events. IMS Problem Investigator can help identify the cause of IMS database system problems by providing crucial information such as who or what updated a database and when the database was updated. It can also help diagnose IMS transaction management

system performance issues by tracking IMS transactions end-to-end through IMS and related systems, determining transaction times and event latencies to help identify bottlenecks.

IMS Problem Investigator for z/OS 2.5.0 includes:

- Improved compliance capabilities. Scrub can now obfuscate sensitive data in a wider variety of log types, allowing you to share more information with vendors and others as needed. As well as the IMS log, you can now use scrub with IMS Connect Extensions journals, IBM MQ logs, CQS logs, and IBM OMEGAMON for IMS on z/OS Application Trace Facility (ATF) log streams and extracts.
- Enhanced usability features based on client requirements:
 - For clients exporting data to CSV format, IMS Problem Investigator for z/OS, V2.5 supports fixed-width format.
 - Summary records generated by IMS Connect Extensions for z/OS can more easily be found without the need to know if they are an IMS or IMS Connect record.
 - The device relative record number (DRRN) is now available as a global field, allowing you to more easily find and filter on this field.

This release also includes all new function APARs shipped with prior releases of IMS Problem Investigator. For more information on new function APARs, visit the IBM Support website.

1.2 IMS Problem Investigator FMID

IMS Problem Investigator consists of the following FMID:

H28T250

2.0 Program Materials

An IBM program is identified by a program number. The program number for IMS Problem Investigator is 5655-R02.

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 IMS Problem Investigator. 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 17 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for IMS Problem Investigator in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for IMS Problem Investigator. 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 for H28T250 - IMS Problem Investigator				
Name	ORG	RECFM	RECL	BLK SIZE
SMPMCS	SEQ	FB	80	8800
IBM.H28T250.F1	PDS	FB	80	8800
IBM.H28T250.F2	PDS	FB	80	8800
IBM.H28T250.F3	PDSE	FB	80	8800
IBM.H28T250.F4	PDSE	U	0	6144
IBM.H28T250.F5	PDSE	FB	80	8800

Figure 1 (Page 2 of 2). Program File Content for H28T250 - IMS Problem Investigator

Name	O R G	R E C F M	L R E C L	BLK SIZE
IBM.H28T250.F6	PDSE	FB	80	8800
IBM.H28T250.F7	PDSE	FB	80	8800
IBM.H28T250.F8	PDSE	FB	80	8800
IBM.H28T250.F9	PDSE	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for IMS Problem Investigator.

2.3 Program Publications

The following sections identify the basic publications for IMS Problem Investigator.

Figure 2 identifies the basic unlicensed publications for IMS Problem Investigator. 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 IMS Problem Investigator for z/OS License Information	GC18-9780	http://www.ibm.com/software/sla/slabdb.nsf
IBM IMS Problem Investigator for z/OS User's Guide	SC27-9600	http://www.ibm.com/software/data/db2imstools/library.html

2.3.1 Optional Program Publications

No optional publications are provided for IMS Problem Investigator.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for IMS Problem Investigator.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 on page 5 during the installation of IMS Problem Investigator.

<i>Figure 3. Publications Useful During Installation</i>		
Publication Title	Form Number	Media Format
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA22-7770	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Commands</i>	SA22-7771	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Reference</i>	SA22-7772	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS User's Guide</i>	SA22-7773	http://www.ibm.com/shop/publications/order/

3.0 Program Support

This section describes the IBM support available for IMS Problem Investigator.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IMS Problem Investigator, 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 20 for a sample APPLY command.

If you obtained IMS Problem Investigator as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IMS Problem Investigator 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 IMS Problem Investigator are included in Figure 4

<i>Figure 4. PSP Upgrade and Subset ID</i>		
UPGRADE	SUBSET	Description
5655R02	H28T250	IMS Problem Investigator

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 7 identifies the component IDs (COMPID) for IMS Problem Investigator.

<i>Figure 5. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
H28T250	5655K5000	IMS PROB INVESTGATOR	250

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IMS Problem Investigator. 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 IMS Problem Investigator have been incorporated into this release. They are listed by FMID.

- FMID H28T230

PM61970	PM82920	PM98323
PM66521	PM83164	PI06503
PM66522	PM83462	PI09155
PM74172	PM86363	PI11009
PM74268	PM89006	PI12098
PM74263	PM91416	PI12683
PM74271	PM91996	PI18159
PM74272	PM93753	PI18162
PM79865	PM95916	PI20512
PM82636	PM96382	PI21687
PM82659	PM97097	

- FMID H28T240

PI25067	PI57235	PI74384
PI27926	PI59644	PI75762
PI36289	PI59970	PI77930
PI40569	PI61640	PI79789
PI44856	PI63796	PI83104
PI45831	PI64600	PI84250
PI49794	PI65246	PI85319
PI52919	PI65841	PI85525
PI53207	PI67659	PI87196
PI54416	PI68446	PI88311
PI54504	PI68447	PI90421
PI54505	PI69291	PI92499
PI54507	PI70314	PI96671
PI54687	PI71401	PI98980
PI56168	PI71422	PH00502

PH02193
PH02194
PH04755

PH05805
PH07492
PH08684

PH10074
PH10941
PH13849

4.2 Service Level Information

No PTFs against this release of IMS Problem Investigator have been incorporated into the product package.

Frequently check the IMS Problem Investigator 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 IMS Problem Investigator. 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 IMS Problem Investigator.

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?
5650-ZOS	z/OS	V02.02.00	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 IMS Problem Investigator.

IMS Problem Investigator installs in the DBS (P115) 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.

IMS Problem Investigator 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.

IMS Problem Investigator 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.

Figure 7. Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
Any one of the following:	
5635-A05	IBM IMS, V14.01.00
5655-TM3	IBM IMS Transaction Manager Value Unit Edition, V14.01.00
5655-DSE	IBM IMS Database Value Unit Edition, V14.01.00
5635-A06	IBM IMS, V15.01.00
5655-TM4	IBM IMS Transaction Manager Value Unit Edition, V15.01.00
5655-DS5	IBM IMS Database Value Unit Edition, V15.01.00

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.

Figure 8 (Page 1 of 2). Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
Any one of the following:		
5655-S56	IBM IMS Connect Extensions for z/OS, V02.04.00 or higher	To provide IMS Connect event instrumentation
5698-CEX	IBM IMS Connect Extensions for z/OS, V03.01.00 or higher	To provide IMS Connect event instrumentation
5655-S42	IBM IMS Performance Solution Pack for z/OS, V1.3 or higher	To provide IMS Connect event instrumentation
5698-P21	IBM IMS Performance Solution Pack for z/OS, V2.1 or higher	To provide IMS Connect event instrumentation
Any one of the following:		
5655-R03	IBM IMS Performance Analyzer for z/OS, V04.04.00 or higher	For creating the IMS transaction index
5655-S42	IBM IMS Performance Solution Pack for z/OS, V1.3 or higher	For creating the IMS transaction index

Figure 8 (Page 2 of 2). Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5655-P21	IBM IMS Performance Solution Pack for z/OS, V2.1 or higher	For creating the IMS transaction index
Any one of the following:		
5698-T02	IBM OMEGAMON for IMS on z/OS, V05.03.00 or higher	For sourcing ATF data for analysis
Any one of the following:		
5615-DB2	IBM Db2 for z/OS, V11	For Db2 log analysis
5679-P43	IBM Db2 for z/OS Value Unit Edition, V11	For Db2 log analysis
5650-DB2	IBM Db2 for z/OS, V12.1	For Db2 log analysis
5770-AF3	IBM DB2 for z/OS Value Unit Edition, V12.1	For DB2 log analysis

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.

IMS Problem Investigator 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.

IMS Problem Investigator has no negative requisites.

5.2.3 DASD Storage Requirements

IMS Problem Investigator libraries can reside on all supported DASD types.

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

Figure 9. Total DASD Space Required by IMS Problem Investigator

Library Type	Total Space Required in 3390 Trks
Target	1125 tracks
Distribution	880 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 <i>not</i> 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 19.

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 LNKLIST.
 - These data sets are not required to be APF-authorized.

The following figures describe the target and distribution libraries required to install IMS Problem Investigator. The storage requirements of IMS Problem Investigator 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 10. Storage Requirements for IMS Problem Investigator 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
SALZBASE	Sample	Any	U	PDS	FB	80	3	2
SALZEXEC	Exec	Any	U	PDSE	FB	80	7	n/a
SALZLINK	LMOD	Any	U	PDSE	U	0	1000	n/a
SALZMENU	Message	Any	U	PDSE	FB	80	8	n/a
SALZPENU	Panel	Any	U	PDSE	FB	80	90	n/a
SALZSAMP	Sample	Any	U	PDSE	FB	80	10	n/a
SALZSENU	Skel	Any	U	PDSe	FB	80	3	n/a
SALZTENU	Table	Any	U	PDSE	FB	80	2	n/a

Figure 11. Storage Requirements for IMS Problem Investigator Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AALZBASE	U	PDS	FB	80	3	2
AALZEXEC	U	PDSE	FB	80	7	n/a
AALZLINK	U	PDSE	U	0	750	n/a
AALZMENU	U	PDSE	FB	80	8	n/a
AALZPENU	U	PDSE	FB	80	90	n/a
AALZSAMP	U	PDSE	FB	80	10	n/a
AALZSENU	U	PDSE	FB	80	3	n/a
AALZTENU	U	PDSE	FB	80	2	n/a

5.3 FMIDs Deleted

Installing IMS Problem Investigator 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 IMS Problem Investigator 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

IMS Problem Investigator 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 IMS Problem Investigator.

Please note the following points:

- If you want to install IMS Problem Investigator 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 IMS Problem Investigator

6.1.1 SMP/E Considerations for Installing IMS Problem Investigator

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of IMS Problem Investigator.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 12. 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.

<i>Figure 12. SMP/E Options Subentry Values</i>		
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

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

- SCEELKED

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

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install IMS Problem Investigator:

Figure 13. Sample Installation Jobs			
Job Name	Job Type	Description	RELFILE
ALZALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.H28T250.F2
ALZDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.H28T250.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 19) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 13 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 //FILEIN DD statement below active for *
//* downloaded DASD files. *
//*****
//*FILEIN DD DSN=IBM.H28T250.F2,UNIT=SYSALLDA,DISP=SHR,
//* VOL=SER=filevol
//OUT DD DSNAME=jc1-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(10,10,5))
//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:

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, continue with the installation.

If you are allocating new SMP/E data sets for this install, edit and submit a JCL job to allocate the SMP/E data set for IMS Problem Investigator. Follow any instructions the JCL might have.

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, continue with the installation.

If you are allocating a new SMP/E CSI data set for this install, edit and submit a JCL Job to create the new CSI.

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 IMS Problem Investigator as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IMS Problem Investigator 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 one of your own sample JCL Jobs to perform the SMP/E RECEIVE for IMS Problem Investigator. Review any 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 ALZALLOC to allocate the SMP/E target and distribution libraries for IMS Problem Investigator. 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 ALZDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IMS Problem Investigator. 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 a sample JCL Job to perform an SMP/E APPLY CHECK for IMS Problem Investigator. Review any 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 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.

6.1.11 Perform `SMP/E ACCEPT`

Edit and submit a sample JCL Job to perform an `SMP/E ACCEPT CHECK` for IMS Problem Investigator. Review any 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 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.

6.1.12 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 IMS Problem Investigator, 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.

6.1.13 Cleaning Up Obsolete Data Sets, Paths, and DDDEFs

The following data sets, which were allocated and used by previous releases of this product, are no longer used in this release. You can delete these obsolete data sets after you delete the previous release from your system.

- AALZLOAD

The following DDDEF entries, which were created and used by previous releases of this product, are no longer used in this release. You can delete these obsolete DDDEF entries after you delete the previous release from your system.

- AALZLOAD

6.2 Activating IMS Problem Investigator

6.2.1 Product Customization

The publication *IBM IMS Problem Investigator for z/OS User's Guide* (SC27-9600) contains the necessary information to customize and use IMS Problem Investigator.

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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