IBM

Program Directory for

IBM IMS Performance Analyzer for z/OS

V04.04.00

Program Number 5655-R03

FMID H23K440

for Use with
z/OS

Document Date: October 2014

> **Note**
>
> Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 25.

Contents

Figures

1.0 Introduction

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

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 4 identifies the basic program materials and documentation for IMS Performance Analyzer.

- 3.0, "Program Support" on page 7 describes the IBM support available for IMS Performance Analyzer.

- 4.0, "Program and Service Level Information" on page 9 lists the APARs (program level) and PTFs (service level) that have been incorporated into IMS Performance Analyzer.

- 5.0, "Installation Requirements and Considerations" on page 10 identifies the resources and considerations that are required for installing and using IMS Performance Analyzer.

- 6.0, "Installation Instructions" on page 17 provides detailed installation instructions for IMS Performance Analyzer. It also describes the procedures for activating the functions of IMS Performance Analyzer, or refers to appropriate publications.

Before installing IMS Performance Analyzer, 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 7 tells you how to find any updates to the information and procedures in this program directory.

IMS Performance Analyzer 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 Performance Analyzer are included on the CBPDO tape.

Do not use this program directory if you install IMS Performance Analyzer 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 Performance Analyzer Description

IBM IMS PERFORMANCE ANALYZER FOR Z/OS, V4.4 (5655-R03) is a performance management tool that provides comprehensive transaction performance and system resource usage reporting for your Information Management System Database (IMS DB) and Transaction Manager (IMS TM) systems. This tool offers a wide variety of performance, usage, and availability reports that can help:

- Analyze transaction response time.

- Measure usage and availability of important resources, including databases, programs, regions, buffers (including database), and queues (message and other internal queues).
- Plan for IMS operational management, including scheduling database reorganizations, monitoring service-level adherence, charge-back accounting, and capacity planning.
- Monitor significant system events that can adversely affect system performance and availability.
- Boost system and application programmer productivity.
- Report critical performance information, from high-level management summaries to detailed traces for in-depth analysis.
- Analyze the impact of IMS Connect on transaction performance.

Integrated tools solution for IMS management

IMS Performance Analyzer for z/OS is a standard solution that is part of an affordable, comprehensive portfolio of IBM database performance management tools. It complements IBM IMS Problem Investigator for z/OS to provide enhanced log analysis and reporting. The result can be improved productivity for problem analysts, more efficient IMS application performance, and higher system availability.

New features and enhancements offered with IMS Performance Analyzer for z/OS:

- **Inflight transactions for the IMS log:**

  If you require continuous reporting of the SLDS data sets, you can activate the inflight processing option to fully account for every transaction processed by IMS.

  – IMS produces its logs (SLDS data sets) at regular intervals as the online log data set (OLDS). As such, some transactions may still be in progress at the end of the log. These incomplete transactions are called inflight transactions.
  – When Activate inflight processing is selected, IMS Performance Analyzer does not report incomplete transactions. Instead it writes the details processed so far to a work data set. This data set is then input into the next IMS Performance Analyzer job as a list of transactions pending completion.
  – It is recommended when using inflight functionality to build the IMS transaction index as you go. The index will keep a detailed record of every transaction processed, providing input for further reporting or problem investigation using IMS Problem Investigator for z/OS.

- **IMS Version 13 support:**

  – Shared queues reporting accepts logs from a mix of IMS versions, as well as providing seamless reporting at the cutover point to a new version of IMS.
  – Help identify and explain any transaction performance behavior changes from one release of IMS to the next.

- **Improved batch message processing (BMP) analysis:**

  The new BMPSYNC option allows you to report each BMP syncpoint interval as a single transaction. BMP activity can be analyzed in greater detail.

  – It is recommended that you collect type x'56FA' transaction accounting log records (TRANSTAT=YES) to analyze CPU usage and DLI call activity in more detail for each BMP syncpoint interval.

- – Each database checkpoint is analyzed to provide a cross reference of databases (read-only and updated) against the BMPs that access them.
- – A BMP-only option allows reporting to focus exclusively on BMPs.

- **Form-based reporting enhancements:**

  Form-based reporting provides flexible, user-customizable transaction performance analysis. Further enhancements in IMS Performance Analyzer for z/OS V4.4 provide specialized analysis:

  - – CPU time can be reported as Service Units, providing a consistent method of measuring CPU usage across different machine types.
  - – The QTYPE form-field has a new 'LOCALF' value to indicate that the shared queue transaction was processed 'local-first'.
  - – New region occupancy form field reports the elapsed time that the transaction occupies in a message region, which can sometimes be longer than the usual application processing time due to an external system problem.

- **Miscellaneous log reporting enhancements:**

  - – The Database Update report has a new FORMAT2 option that provides a more concise breakdown of database update activity.
  - – The Gap Analysis report has a new option to ignore type x'6D' surveillance records that can mask periods of system inactivity.
  - – The Fast Path (IFP) region occupancy report exploits the new type x'5904' record to provide a clearer breakdown of occupied versus idle time.

- **Internal resource usage enhancements:**

  The Internal Resource Usage report (IRUR) is enhanced to support the new statistics provided by IMS V12 and V13:

  - – x'4502' Queue Pool statistics provides high water marks for buffer usage.
  - – x'4507' Logger statistics provides WADS and OLDS I/O time.

- **IMS Monitor reporting enhancement:**

  The monitor ALTSCHED option is improved to count actual schedules only. This provides a more accurate picture of the transactions per schedule ratio in environments where the pseudo-WFI (pseudo wait-for-input) option is used.

1.2 IMS Performance Analyzer FMID

IMS Performance Analyzer consists of the following FMID:

H23K440

2.0 Program Materials

An IBM program is identified by a program number. The program number for IMS Performance Analyzer is 5655-R03.

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 Performance Analyzer. 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 Performance Analyzer in the *CBPDO Memo To Users Extension*.

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.H23K440.F1	PDS	FB	80	8800
IBM.H23K440.F2	PDS	FB	80	8800
IBM.H23K440.F3	PDS	U	0	6144
IBM.H23K440.F4	PDS	FB	80	8800
IBM.H23K440.F5	PDS	FB	80	8800
IBM.H23K440.F6	PDS	FB	80	8800
IBM.H23K440.F7	PDS	FB	80	8800
IBM.H23K440.F8	PDS	FB	80	8800

Figure 1 (Page 2 of 2). Program File Content		R E C F M	L R E C L	BLK SIZE
Name	**O R G**			
IBM.H23K440.F9	PDS	FB	80	8800
IBM.H23K440.F10	PDS	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for IMS Performance Analyzer.

2.3 Program Publications

The following sections identify the basic publications for IMS Performance Analyzer.

Figure 2 identifies the basic unlicensed publications for IMS Performance Analyzer. 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 Performance Analyzer for z/OS License Information	GC18-9777	http://www.ibm.com/software/sla/sladb.nsf
IBM IMS Performance Analyzer for z/OS User's Guide	SC19-4365	http://www.ibm.com/software/data/db2imstools/library.html
IBM IMS Performance Analyzer for z/OS Report Reference	SC19-4366	http://www.ibm.com/software/data/db2imstools/library.html

2.3.1 Optional Program Publications

No optional publications are provided for IMS Performance Analyzer.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for IMS Performance Analyzer.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 on page 6 during the installation of IMS Performance Analyzer.

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

3.0 Program Support

This section describes the IBM support available for IMS Performance Analyzer.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IMS Performance Analyzer, 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 21 for a sample APPLY command.

If you obtained IMS Performance Analyzer as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IMS Performance Analyzer 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 Performance Analyzer are included in Figure 4

Figure 4. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
5655R03	H23K440	IMS Performance Analyzer

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 8 identifies the component IDs (COMPID) for IMS Performance Analyzer.

Figure 5. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
H23K440	5655E1500	IMS Performance Analyzer	440

4.0 Program and Service Level Information

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

- FMID H23K430

PM61802	PM86214	PI10742
PM68240	PM86929	PI11528
PM72636	PM87415	PI12787
PM74169	PM88740	PI15279
PM77790	PM88918	PI15619
PM79868	PM91305	PI15977
PM79873	PM93070	PI14954
PM81731	PM99382	PI17558
PM82934	PI07689	PI19019
PM83151	PI10230	PI20423
PM83153		

4.2 Service Level Information

No PTFs against this release of IMS Performance Analyzer have been incorporated into the product package.

Frequently check the IMS Performance Analyzer 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 IMS Performance Analyzer. 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 Performance Analyzer.

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 IMS Performance Analyzer.

IMS Performance Analyzer 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 Performance Analyzer 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 Performance Analyzer 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-A03	IBM IMS V12.01.00
5655-DSQ	IBM IMS Database Value Unit Edition V12.01.00 with PTF UK93908
5655-TM1	IBM IMS Transaction Manager Value Unit Edition V12.01.00
5635-A04	IBM IMS V13.01.00
5655-DSM	IBM IMS Database Value Unit Edition V13.01.00
5655-TM2	IBM IMS Transaction Manager Value Unit Edition V13.01.00

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**
5655-V93	IBM Tools Base for z/OS V01.04.00 or higher	For offloading IMS log reports to the IMS Tools Knowledge Base repository
5697-P37	IBM Transaction Analysis Workbench for z/OS V01.02.00	For analyzing CICS-DBCTL and IMS-DB2 workloads in more depth
Any **one** of the following:		
5655-S56	IBM IMS Connect Extensions for z/OS V02.03.00 or higher	For providing IMS Connect event instrumentation
5655-S42	IMS Performance Solution Pack for z/OS V01.02.00 or higher	For providing IMS Connect event instrumentation
Any **one** of the following:		
5698-A34	IBM Tivoli OMEGAMON XE for IMS on z/OS V04.02.00 or higher	For providing ATF data for in-depth analysis of DLI calls
5698-T02	IBM Tivoli OMEGAMON XE for IMS on z/OS V05.01.00 or higher	For providing ATF data for in-depth analysis of DLI calls

Figure 8 (Page 2 of 2). Target System Conditional Operational Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5655-U87	IBM CICS Performance Analyzer for z/OS V03.02.00 or higher	For measuing CICS-DBCTL transaction performance and IMS-related activity
Any **one** of the following:		
5605-DB2	IBM DB2 for z/OS V10.01.00	For DB2 log analysis
5697-P31	IBM DB2 for z/OS Value Unit Edition V10.01.00	For DB2 log analysis
5615-DB2	IBM DB2 for z/OS V11.01.00	For DB2 log analysis
5697-P43	IBM DB2 for z/OS Value Unit Edition V11.01.00	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 Performance Analyzer 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 Performance Analyzer has no negative requisites.

5.2.3 DASD Storage Requirements

IMS Performance Analyzer 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 Performance Analyzer	
Library Type	**Total Space Required in 3390 Trks**
Target	689 tracks
Distribution	689 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 20.

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.

The following figures describe the target and distribution libraries required to install IMS Performance Analyzer. The storage requirements of IMS Performance Analyzer 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.

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
SIPIBASE	Sample	Any	U	PDS	FB	80	3	2
SIPIEXEC	Exec	Any	U	PDS	FB	80	84	5
SIPILINK	LMOD	Any	U	PDS	U	0	252	50
SIPIMAC	Macro	Any	U	PDS	FB	80	34	3
SIPIMENU	Message	Any	U	PDS	FB	80	7	5
SIPIPENU	Panel	Any	U	PDS	FB	80	285	75
SIPISAMP	Sample	Any	U	PDS	FB	80	17	5
SIPISENU	Skel	Any	U	PDS	FB	80	5	2
SIPITENU	Table	Any	U	PDS	FB	80	2	2

Figure 10. Storage Requirements for IMS Performance Analyzer Target 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
AIPIBASE	U	PDS	FB	80	3	2
AIPIEXEC	U	PDS	FB	80	84	5
AIPILINK	U	PDS	U	0	252	50
AIPIMAC	U	PDS	FB	80	34	3
AIPIMENU	U	PDS	FB	80	7	5
AIPIPENU	U	PDS	FB	80	285	75
AIPISAMP	U	PDS	FB	80	17	5
AIPISENU	U	PDS	FB	80	5	2
AIPITENU	U	PDS	FB	80	2	2

Figure 11. Storage Requirements for IMS Performance Analyzer Distribution Libraries

5.3 FMIDs Deleted

Installing IMS Performance Analyzer 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 Performance Analyzer 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 Performance Analyzer 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 Performance Analyzer.

Please note the following points:

- If you want to install IMS Performance Analyzer 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 Performance Analyzer

6.1.1 SMP/E Considerations for Installing IMS Performance Analyzer

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

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.

Figure 12. 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

IMS Performance Analyzer uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When IMS Performance Analyzer 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 Performance Analyzer. These data sets are not updated during the installation of IMS Performance Analyzer.

6.1.4 Sample Jobs

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

Figure 13. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
IPIALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set **(Optional)**	IBM.H23K440.F2
IPIALB	SMP/E	Sample job to allocate SMP/E data sets **(Optional)**	IBM.H23K440.F2
IPIRECEV	RECEIVE	Sample RECEIVE job	IBM.H23K440.F2
IPIALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.H23K440.F2
IPIDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.H23K440.F2
IPIAPPLY	APPLY	Sample APPLY job	IBM.H23K440.F2
IPIACCEP	ACCEPT	Sample ACCEPT job	IBM.H23K440.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 20) 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 //TAPEIN DD statement below active if you install*
//* from a CBPDO tape by uncommenting the DD statement below. *
//*********************************************************
//*TAPEIN   DD DSN=IBM.H23K440.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.H23K440.F2,UNIT=tunit,
//*           VOL=SER=23K440,LABEL=(3,SL),
//*           DISP=(OLD,KEEP)
//*************************************************************
//* Make the //FILEIN DD statement below active for           *
//* downloaded DASD files.                                     *
//*************************************************************
//*FILEIN   DD DSN=IBM.H23K440.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.H23K440.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 IPIALA to allocate the SMP/E data set for IMS Performance Analyzer. 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 IPIALB to initialize SMP/E zones for IMS Performance Analyzer. 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 IMS Performance Analyzer as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IMS Performance Analyzer 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 IPIRECEV to perform the SMP/E RECEIVE for IMS Performance Analyzer. 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 IPIALLOC to allocate the SMP/E target and distribution libraries for IMS Performance Analyzer. 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 IPIDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IMS Performance Analyzer. 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 IPIAPPLY to perform an SMP/E APPLY CHECK for IMS Performance Analyzer. 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 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 sample job IPIACCEP to perform an SMP/E ACCEPT CHECK for IMS Performance Analyzer. 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 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 Performance Analyzer, 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.

- AIPILOAD

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.

- AIPILOAD

6.2 Activating IMS Performance Analyzer

6.2.1 Product Customization

The publications *IBM IMS Performance Analyzer for z/OS User's Guide* (SC19-4365), and *IBM IMS Performance Analyzer for z/OS Report Reference* (SC19-4366) contain the necessary information to customize and use IMS Performance Analyzer.

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