



**Program Directory for  
IBM IMS Performance Solution Pack  
for z/OS**

V02.01.00

Program Number 5698-P21

FMIDs H AHL210, H28T240, H23K440, H28S310

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 34.

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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 IMS Performance Solution Pack for z/OS. This publication refers to IBM IMS Performance Solution Pack for z/OS as IMS Performance Solution Pack, IBM IMS Problem Investigator for z/OS as IMS Problem Investigator, IBM IMS Performance Analyzer for z/OS as IMS Performance Analyzer, and IBM IMS Connect Extensions for z/OS as IMS Connect Extensions.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 8 identifies the basic program materials and documentation for IMS Performance Solution Pack.
- 3.0, “Program Support” on page 13 describes the IBM support available for IMS Performance Solution Pack.
- 4.0, “Program and Service Level Information” on page 15 lists the APARs (program level) and PTFs (service level) that have been incorporated into IMS Performance Solution Pack.
- 5.0, “Installation Requirements and Considerations” on page 16 identifies the resources and considerations that are required for installing and using IMS Performance Solution Pack.
- 6.0, “Installation Instructions” on page 26 provides detailed installation instructions for IMS Performance Solution Pack. It also describes the procedures for activating the functions of IMS Performance Solution Pack, or refers to appropriate publications.

Before installing IMS Performance Solution Pack, 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 13 tells you how to find any updates to the information and procedures in this program directory.

IMS Performance Solution Pack 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 Solution Pack are included on the CBPDO tape.

Do not use this program directory if you install IMS Performance Solution Pack 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.

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## 1.1 IMS Performance Solution Pack Description

IBM IMS PERFORMANCE SOLUTION PACK FOR Z/OS, V2.1 (5698-P21) delivers a more affordable, comprehensive portfolio of IBM database performance management tools. The product combines the features and functions of IMS Connect Extensions for z/OS, IMS Performance Analyzer for z/OS, and IMS Problem Investigator for z/OS. The three products are complementary, making the end-to-end analysis of IMS transactions faster and easier, supporting improved productivity for problem analysts, improved IMS application performance, more efficient IMS resource utilization, and higher system availability.

**IBM IMS Connect Extensions for z/OS** improves the availability, reliability, and performance of IMS Connect. With IMS Connect Extensions, your systems become more transparent, workloads are easier to manage, and problems become easier to troubleshoot.

**IBM IMS Connect Extensions for z/OS, V3.1** provides a new facility to expose near real-time IMS Connect transaction summary data to analytics engines. This includes information regarding the message's origin, its destination, and the overall response time. This information can be written to SMF for IBM Common Data Provider for z Systems, formatted as JSON Lines, or written to data sets for use in IMS Performance Analyzer for z/OS, IMS Problem Investigator for z/OS, and IBM Transaction Analysis Workbench for z/OS. This method avoids the need to post-process IMS Connect Extensions journals in IMS Performance Analyzer to generate IMS Connect transaction indexes (containing CA20 event records).

**IBM IMS Connect Extensions for z/OS, V3.1** provides enhanced monitoring of IMS Connect. Version 3.1 provides further instrumentation of IMS Connect status monitoring to include active journal and TCP/IP socket usage, allowing you to view socket and journal information in ISPF, Operations Console for z/OS Explorer, and the host command environment for REXX.

**IBM IMS Connect Extensions for z/OS, V3.1** provides new opportunities for automation with the ability to query the status monitor via the host command environment for REXX. These commands allow you to develop automated responses based on the status of systems, IMS data stores, and sessions.

New automation examples provided with IMS Connect Extensions include sample REXX execs to:

- Automatically respond to situations where socket usage in IMS Connect is high by cancelling long-dormant persistent sessions to free those sockets.
- Perform periodic IMS Connect Extensions journal switches based on the journal that is currently used.
- Dynamically redistribute workload across IMS data stores by adjusting their capacity weight ratings (CWR) by relative amounts.
- Coordinate a drain of in-progress transactions from multiple IMS data stores across any number of IMS Connect systems in preparation for IMS shutdown.

**IBM IMS Connect Extensions for z/OS, V3.1** has the following additional features:

- PassTicket is supported for the distributed data management architecture (DDM) of the Distributed Relational Database Architecture® (DRDA).

- Clients can use IP address rules to treat messages coming from an IP address as a trusted user or to assign a specific user ID to the request.
- MS Connect Extensions Operations Console is now available for download via the IBM Explorer for z/OS website.

In addition, the following enhancements previously delivered in IMS Connect Extensions V2.4 via Continuous Delivery are included in V3.1:

- Password phrase support
- Wildcard support for the DESTID in OTMA routing rules
- Option to nominate or remove CEXPRINT messages in the SYSLOG
- VALIDATE\_TRUSTED option to CEXCTLIN SECURITY option to check the user ID associated with an incoming OTMA transaction and reject the message if RACF,, returns an invalid status
- Enhancement to use ENF 71 events to initiate ACEE cache purges

For more information on the features available in IMS Connect Extensions for z/OS, visit the IMS Connect Extensions website:

<https://www.ibm.com/us-en/marketplace/ims-connect-extensions-for-zos>

### **IMS Performance Analyzer for z/OS**

IMS Performance Analyzer for z/OS is a performance management tool that provides comprehensive transaction performance and system resource usage reporting for your IMS DB and IMS TM systems. This tool offers a wide variety of performance, resource 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.

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 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, V4.4:

- Inflight transactions for the IMS log: If you require continuous reporting of the SLDS data sets, 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 for z/OS does not report incomplete transactions. Instead it writes their details processed so far to a work data set. This data set is then input into the next IMS Performance Analyzer for z/OS 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 to Version 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.
  - Identify and explain any transaction performance behavior changes from one release of IMS to the next.
- Improved 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 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.

For more information on the features available in IMS Performance Analyzer for z/OS, visit the IMS Performance Analyzer website:

<http://www.ibm.com/us-en/marketplace/ims-performance-analyzer-for-zos>

### **IMS Problem Investigator for z/OS**

IMS Problem Investigator for z/OS is a powerful problem analysis aid for the IMS DB and IMS TM systems. It helps make identifying and resolving problems faster and easier.

The product provides an ISPF dialog, as well as a batch and REXX interface, to format and present IMS-related diagnostic data, including the IMS log and monitor, IMS Connect events collected by IMS Connect Extensions for z/OS, as well as OMEGAMON TRF and ATF, DB2, WebSphere MQ logs, and log streams such as the Common Queue Server (CQS).

IMS Problem Investigator for z/OS:

- Exploits the wealth of information collected by IMS and its related subsystems.
- Offers interactive problem determination, with powerful record formatting and navigation aids that help to simplify log analysis.
- Provides an end-to-end replay of an IMS transaction from a single screen, including DB2 and WebSphere MQ events.
- Tracks the transaction life cycle through IMS Connect and into IMS.
- Supports OMEGAMON for Application Trace Facility (ATF) for detailed DLI and DB2 call analysis and CPU utilization.
- Provides log record analysis that can drill down to the field-level with online help.
- Displays transaction times and event latencies to help identify bottlenecks.
- Provides a REXX command interface for customized log record analysis and extract.
- Offers batch reporting and extract facility.
- Provides automated IMS log file selection using DBRC.
- Complements other tools in the performance management portfolio.

New features and enhancements provided in IMS Problem Investigator for z/OS, V2.4:

- IMS checkpoint and statistics enhancements
  - Selected IMS log record type x'40' checkpoint and x'45' statistics records can be split into multiple records. One record per resource provides improved analysis. For example, the type x'4004' SMB (transaction) checkpoint record can be split into one record per transaction, allowing a filter to be specified to identify all transactions that are not being used.

- IMS Version to Version Support
  - Supports new and changed log record types introduced in new IMS versions
- Support for new versions of DB2 for z/OS
  - Support for DB2 logs in extended 10-byte RBA and LRSN format.
  - Improved DB2 log record type recognition. UR events (previously all identified as x'0020') are now split into control (x'0020') and undo/redo (x'0600').
- ISPF dialog usability enhancements
  - The new TIMEOUT option in log browsing can stop long response times associated with full data set scans.
  - Each log file in the process list now remembers its last date and time position in the log file. Now when resume log file analysis resumes, it is quicker to relocate back to where you were.
  - Color highlighting makes it easier to distinguish between different record types in the display.
  - New display options to:
    1. Bypass the LSN display and only show time when scrolling horizontally between expanded and compact views.
    2. Remove the expanded view record separator line to show more records on the screen.
  - Append new records to an existing extract data set using the EXTRACT primary command with the MOD option.
- IMS log type x'50' database update enhancements:
 

The IMS type x'50' database update record is now split into 3 subtypes to improve understanding of the update taking place:

  - x'5050' database update
  - x'5051' database change unsuccessful
  - x'5052' database insert into KSDS
- IMS Connect enhancements
  - IMS Connect event codes are extended from one byte to two to support the new IMS Connect events (initially introduced in IMS V13) related to CICS, ISC, health-check and security.
  - The Connect recorder trace is interpreted and displayed as Connect events for a deep-dive of Connect related problems.

For more information on the features available in IMS Problem Investigator for z/OS, visit the IMS Problem Investigator website:

<http://www.ibm.com/us-en/marketplace/ims-problem-investigator-for-zos>

### **Key features provided in IMS Performance Solution Pack for z/OS, V2.1**

The IMS Performance Solution Pack offers a suite of tools that are useful separately, but when combined, they can provide a powerful performance analysis capability. Individually, each of the tools that comprise the IMS Performance Solution Pack provides you with a wealth of insight into activity within IMS, which helps you to meet service levels, plan capacity, and can add new value to IMS. However, using these tools together provides a unique set of benefits.

By using the IMS Performance Solution Pack you can perform the following tasks:

- Use IMS Problem Investigator to browse sections in the IMS log where poorly performing transactions are found (using an accounting index that is generated by IMS Performance Analyzer).
- Quickly identify or eliminate IMS Connect as the source of performance problems and then determine whether the problem is in OTMA, WebSphere MQ, DB2, shared queues, or any of many other subsystems.
- Automatically select and combine IMS Connect Extensions journals with IMS logs to view only those records from the time of day that a problem occurred.
- Rapidly isolate problems in complex interrelated enterprise systems, thereby reducing downtime.
- Focus more on solving business problems rather than searching for and formatting logs.
- Pinpoint exactly where and why transactions are delayed.
- Perform advanced analysis using less-experienced staff to determine, for example:
  - The cause of TCP/IP client delays
  - Why transactions are falling below service level requirements
- Map the life cycle of individual transactions, which provides a better understanding of your environment.
- Solve problems with new and existing applications and transactions.
- Audit changes, security violations, and transaction pathways.

TRADE-UP OPTIONS are available for IMS Performance Solution Pack for z/OS, V2.1. Contact your IBM representative.

For more information on IMS Performance Solution Pack for z/OS, visit the IMS Performance Solution Pack website:

<http://www.ibm.com/us-en/marketplace/ims-performance-solution-pack-z-systems/>

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## 1.2 IMS Performance Solution Pack FMIDs

IMS Performance Solution Pack consists of the following FMIDs:

HAHL210 - IMS Performance Solution Pack  
H28T240 - IMS Problem Investigator  
H23K440 - IMS Performance Analyzer  
H28S310 - IMS Connect Extensions

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## 2.0 Program Materials

An IBM program is identified by a program number. The program number for IMS Performance Solution Pack is 5698-P21.

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 Solution Pack. Ask your IBM representative for this information if you have not already received a copy.

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### 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 26 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 Solution Pack in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for IMS Performance Solution Pack. 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. Program File Content for H AHL210 - IMS Performance Solution Pack

Name	ORG	RECFM	LEN	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.HAHL210.F1	PDS	FB	80	8800

Figure 2. Program File Content for H28T240 - IMS Problem Investigator

<b>Name</b>	<b>O R G</b>	<b>R E C F M</b>	<b>L R E C L</b>	<b>BLK SIZE</b>
SMPMCS	SEQ	FB	80	6400
IBM.H28T240.F1	PDS	FB	80	8800
IBM.H28T240.F2	PDS	FB	80	8800
IBM.H28T240.F3	PDS	FB	80	8800
IBM.H28T240.F4	PDS	U	0	6144
IBM.H28T240.F5	PDS	FB	80	8800
IBM.H28T240.F6	PDS	FB	80	8800
IBM.H28T240.F7	PDS	FB	80	8800
IBM.H28T240.F8	PDS	FB	80	8800
IBM.H28T240.F9	PDS	FB	80	8800

Figure 3. Program File Content for H23K440 - IMS Performance Analyzer

<b>Name</b>	<b>O R G</b>	<b>R E C F M</b>	<b>L R E C L</b>	<b>BLK SIZE</b>
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
IBM.H23K440.F9	PDS	FB	80	8800
IBM.H23K440.F10	PDS	FB	80	8800

Figure 4. Program File Content for H28S310 - IMS Connect Extensions

<b>Name</b>	<b>O R G</b>	<b>R E C F M</b>	<b>L R E C L</b>	<b>BLK SIZE</b>
SMPMCS	SEQ	FB	80	6400
IBM.H28S310.F1	PDS	FB	80	8800
IBM.H28S310.F2	PDS	FB	80	8800
IBM.H28S310.F3	PDSE	FB	80	8800
IBM.H28S310.F4	PDSE	U	0	6144
IBM.H28S310.F5	PDSE	FB	80	8800
IBM.H28S310.F6	PDSE	FB	80	8800
IBM.H28S310.F7	PDSE	FB	80	8800
IBM.H28S310.F8	PDSE	FB	80	8800
IBM.H28S310.F9	PDSE	FB	80	8800
IBM.H28S310.F10	PDSE	FB	80	8800

## 2.2 Optional Machine-Readable Material

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

## 2.3 Program Publications

The following sections identify the basic publications for IMS Performance Solution Pack.

Figure 5 identifies the basic unlicensed publications for IMS Performance Solution Pack. 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 5 (Page 1 of 2). Basic Material: Unlicensed

<b>Publication Title</b>	<b>Form Number</b>	<b>Media Format</b>
IBM IMS Performance Solution Pack for z/OS License Information	LC27-9520	WEB
IBM IMS Problem Investigator for z/OS User's Guide	SC19-4367	WEB

Figure 5 (Page 2 of 2). Basic Material: Unlicensed

Publication Title	Form Number	Media Format
IBM IMS Performance Analyzer for z/OS User's Guide	SC19-4365	WEB
IBM IMS Performance Analyzer for z/OS Report Reference	SC19-4366	WEB
IBM IMS Connect Extensions for z/OS User's Guide	SC27-9517	WEB
IBM IMS Performance Solution Pack for z/OS: Overview and Customization	SC27-9519	WEB

### 2.3.1 Optional Program Publications

No optional publications are provided for IMS Performance Solution Pack.

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## 2.4 Program Source Materials

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

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## 2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 6 during the installation of IMS Performance Solution Pack.

Figure 6 (Page 1 of 2). Publications Useful During Installation

Publication Title	Form Number	Media Format
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277	<a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a>
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275	<a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a>
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276	<a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a>
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883	<a href="http://www.ibm.com/shop/publications/order/">http://www.ibm.com/shop/publications/order/</a>

Figure 6 (Page 2 of 2). Publications Useful During Installation

<b>Publication Title</b>	<b>Form Number</b>	<b>Media Format</b>
<i>IBM Tools Base for z/OS IMS Tools Common Services User's Guide</i>	SC19-4371	<a href="http://www.ibm.com/support/docview.wss?uid=swg27020942">http://www.ibm.com/support/docview.wss?uid=swg27020942</a>



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## 3.0 Program Support

This section describes the IBM support available for IMS Performance Solution Pack.

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### 3.1 Program Services

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

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### 3.2 Preventive Service Planning

Before you install IMS Performance Solution Pack, 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 30 for a sample APPLY command.

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

If the CBPDO for IMS Performance Solution Pack 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 Solution Pack are included in Figure 7

*Figure 7. PSP Upgrade and Subset ID*

UPGRADE	SUBSET	Description
5655S42	HAHL210	IMS Performance Solution Pack
5655R02	H28T240	IMS Problem Investigator
5655R03	H23K440	IMS Performance Analyzer
5698CEX	H28S310	IMS Connect Extensions

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### 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 8 on page 14 identifies the component IDs (COMPID) for IMS Performance Solution Pack.

<i>Figure 8. Component IDs</i>			
<b>FMID</b>	<b>COMPID</b>	<b>Component Name</b>	<b>RETAIN Release</b>
HAHL210	5655S4200	IMS Performance Solution Pack	210
H28T240	5655K5000	IMS Problem Investigator	240
H23K440	5655E1500	IMS Performance Analyzer	440
H28S310	5655K4800	IMS Connect Extensions	310

---

## 4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IMS Performance Solution Pack. 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

No APARs have been incorporated into IMS Performance Solution Pack.

To view the list of APAR fixes against the previous releases of the products that constitute IMS Performance Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI10-8704 for IBM IMS Problem Investigator for z/OS Program Directory
- Publication number GI10-8703 for IBM IMS Performance Analyzer for z/OS Program Directory
- Publication number GI13-4903 for IBM IMS Connect Extensions for z/OS Program Directory

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### 4.2 Service Level Information

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

To view the Service Level Information of the products that constitute IMS Performance Solution Pack, refer to the following Program Directories that are supplied with the product.

- Publication number GI10-8704 for IBM IMS Problem Investigator for z/OS Program Directory
- Publication number GI10-8703 for IBM IMS Performance Analyzer for z/OS Program Directory
- Publication number GI13-4903 for IBM IMS Connect Extensions for z/OS Program Directory

Frequently check the IMS Performance Solution Pack 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.

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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating IMS Performance Solution Pack. 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 Solution Pack.

#### 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 9. 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](http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html).

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## 5.2 Target System Requirements

This section describes the environment of the target system required to install and use IMS Performance Solution Pack.

IMS Performance Solution Pack 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.

Figure 10. Target System Mandatory Installation Requisites

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5655-CSL	IBM Common Services Library for z/OS	01.01.00 or higher	APAR PH04718	No

**Note:** Installation might require migration to new z/OS releases to be service supported. See [http://www-03.ibm.com/systems/z/os/zos/support/zos\\_eos\\_dates.html](http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html).

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

IMS Performance Solution Pack 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 11. Target System Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
Any <b>one</b> of the following:	
5653-A05	IBM IMS, V14.01.00
5655-DSE	IBM IMS Database Value Unit Edition, V14.01.00
5655-TM3	IBM IMS Transaction Manager Value Unit Edition, V14.01.00
5653-A06	IBM IMS, V15.01.00
5655-DS5	IBM IMS Database Value Unit Edition, V15.01.00
5655-TM4	IBM IMS Transaction Manager 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 12 (Page 1 of 2). Target System Conditional Operational Requisites

<b>Program Number</b>	<b>Product Name and Minimum VRM/Service Level</b>	<b>Function</b>
5697-P37	IBM Transaction Analysis Workbench for z/OS V01.02.00	For analyzing CICS-DBCTL and IMS-DB2 workloads in more depth -- required by IMS Performance Analyzer, FMID H23K440 (the FMID is included in this Solution Pack)
5655-U87	IBM CICS Performance Analyzer for z/OS, V03.02.00 or higher	For measuring CICS-DBCTL transaction performance and IMS-related activity -- required by IMS Performance Analyzer, FMID H23K440 (the FMID is included in this Solution Pack)
Any <b>one</b> of the following:		
5698-A34	IBM Tivoli OMEGAMON XE for IMS on z/OS V04.02.00 or higher	For collecting OMEGAMON TRF data or OMEGAMON ATF data -- required by IMS Performance Analyzer, FMID H23K440, and by IMS Problem Investigator, FMID H28T240 (both FMIDs are included in this Solution Pack)
5698-T02	IBM Tivoli OMEGAMON XE for IMS on z/OS V05.01.00 or higher	For collecting OMEGAMON TRF data or OMEGAMON ATF data -- required by IMS Performance Analyzer, FMID H23K440, and by IMS Problem Investigator, FMID H28T240 (both FMIDs are included in this Solution Pack)
Any <b>one</b> of the following:		
5605-DB2	IBM DB2 for z/OS, V10.01	For DB2 log analysis-- required by IMS Performance Analyzer, FMID H23K440, and by IMS Problem Investigator, FMID H28T240 (both FMIDs are included in this Solution Pack)
5697-P31	IBM DB2 for z/OS Value Unit Edition, V10.01	For DB2 log analysis-- required by IMS Performance Analyzer, FMID H23K440, and by IMS Problem Investigator, FMID H28T240 (both FMIDs are included in this Solution Pack)

Figure 12 (Page 2 of 2). Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5615-DB2	IBM DB2 for z/OS, V11.01	For DB2 log analysis-- required by IMS Performance Analyzer, FMID H23K440, and by IMS Problem Investigator, FMID H28T240 (both FMIDs are included in this Solution Pack)
5697-P37	IBM DB2 for z/OS Value Unit Edition, V11.01	For DB2 log analysis-- required by IMS Performance Analyzer, FMID H23K440, and by IMS Problem Investigator, FMID H28T240 (both FMIDs are included in this Solution Pack)

### 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 Solution Pack 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 Solution Pack has no negative requisites.

## 5.2.3 DASD Storage Requirements

IMS Performance Solution Pack libraries can reside on all supported DASD types.

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

Figure 13. Total DASD Space Required by IMS Performance Solution Pack

Library Type	Total Space Required in 3390 Trks
Target	4243 tracks
Distribution	4243 tracks



**Note**

The allocations/DASD requirements are for the IMS Performance Solution Pack only. For any shared data sets with other Solution Packs, the individual documented sizes must be added up as necessary and the data set allocations must be adjusted accordingly.

**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 30.

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, except for IMS Connect Extensions load library, which cannot be placed in LPA since not all parts in it are re-entrant.
- These data sets can be in the LNKLIST.
- Target libraries SCEXLINK and SFUNLINK must be APF-authorized.

The following figures describe the target and distribution libraries required to install IMS Performance Solution Pack. The storage requirements of IMS Performance Solution Pack 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 14. Storage Requirements for IMS Performance Solution Pack 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
SFUNBASE	SAMPLE	Any	U	PDS	FB	80	6	2

Figure 15. 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	S	PDS	FB	80	3	2
SALZEXEC	Exec	Any	S	PDS	FB	80	7	2
SALZLINK	LMOD	Any	S	PDS	U	0	1069	270
SALZMENU	Message	Any	S	PDS	FB	80	6	6
SALZPENU	Panel	Any	S	PDS	FB	80	85	35
SALZSAMP	Sample	Any	S	PDS	FB	80	12	4
SALZSENU	Skeleton	Any	S	PDS	FB	80	3	2
SALZTENU	Table	Any	S	PDS	FB	80	2	2

Figure 16. Storage Requirements for IMS Performance Analyzer 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
SIPIBASE	Sample	Any	S	PDS	FB	80	3	2
SIPIEXEC	Exec	Any	S	PDS	FB	80	84	5
SIPILINK	LMOD	Any	S	PDS	U	0	252	50
SIPIMAC	Macro	Any	S	PDS	FB	80	34	3
SIPIMENU	Message	Any	S	PDS	FB	80	7	5
SIPIPENU	Panel	Any	S	PDS	FB	80	285	75
SIPISAMP	Sample	Any	S	PDS	FB	80	17	5
SIPISENU	Skeleton	Any	S	PDS	FB	80	5	2
SIPITENU	Table	Any	S	PDS	FB	80	2	2

Figure 17. Storage Requirements for IMS Connect Extensions 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
SCEXBASE	Sample	Any	S	PDS	FB	80	5	2
SCEXEXEC	Exec	Any	S	PDSE	FB	80	6	2
SCEXLINK	LMOD	Any	S	PDSE	U	0	376	35
SCEXMACS	Macro	Any	S	PDSE	FB	80	68	20
SCEXMENU	Message	Any	S	PDSE	FB	80	5	5
SCEXPENU	Panel	Any	S	PDSE	FB	80	118	50
SCEXSAMP	Sample	Any	S	PDSE	FB	80	26	6
SCEXSENU	Skeleton	Any	S	PDSE	FB	80	2	2
SCEXTENU	Table	Any	S	PDSE	FB	80	2	2

Figure 18. Storage Requirements for IMS Performance Solution Pack 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
AFUNBASE	U	PDS	FB	80	6	2

Figure 19. 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	S	PDS	FB	80	3	2
AALZEXEC	S	PDS	FB	80	7	2
AALZLINK	S	PDS	U	0	1069	270
AALZMENU	S	PDS	FB	80	6	6
AALZPENU	S	PDS	FB	80	85	35
AALZSAMP	S	PDS	FB	80	12	4
AALZSENU	S	PDS	FB	80	3	2
AALZTENU	S	PDS	FB	80	2	2

Figure 20. Storage Requirements for IMS Performance Analyzer 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
APIBASE	S	PDS	FB	80	3	2
APIEXEC	S	PDS	FB	80	84	5
AIPILINK	S	PDS	U	0	252	50
AIPIMAC	S	PDS	FB	80	34	3
AIPIMENU	S	PDS	FB	80	7	5
APIPENU	S	PDS	FB	80	285	75
AIPISAMP	S	PDS	FB	80	17	5
APISENU	S	PDS	FB	80	5	2
AIPITENU	S	PDS	FB	80	2	2

Figure 21. Storage Requirements for IMS Connect Extensions 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
ACEXBASE	S	PDS	FB	80	5	2
ACEXEXEC	S	PDSE	FB	80	6	2
ACEXLINK	S	PDSE	U	0	376	35
ACEXMACS	S	PDSE	FB	80	68	20
ACEXMENU	S	PDSE	FB	80	5	5
ACEXPENU	S	PDSE	FB	80	118	50
ACEXSAMP	S	PDSE	FB	80	26	6
ACEXSENU	S	PDSE	FB	80	2	2
ACEXTENU	S	PDSE	FB	80	2	2

### 5.3 FMIDs Deleted

Installing IMS Performance Solution Pack 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 Solution Pack 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 Solution Pack recommendations:

- The PSP Bucket has the most current information and must be reviewed before starting with the installation of the IMS Performance Solution Pack.
- Ensure sufficient space and directory blocks are available. For data set directory blocks and space requirements refer to the "DASD Space Required" table and to the distribution and target library requirements section.

---

## 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 Solution Pack.

Please note the following points:

- If you want to install IMS Performance Solution Pack 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 Solution Pack

#### 6.1.1 SMP/E Considerations for Installing IMS Performance Solution Pack

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

#### 6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 22. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

*Figure 22. SMP/E Options Subentry Values*

Subentry	Value	Comment
DSSPACE	(7000,200,500)	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 Solution Pack uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When IMS Performance Solution Pack is installed, ensure that DDDEFs exist for the following libraries:

- CSSLIB
- SCEELKED
- SCEELIB
- SCEELKEX
- SCEECPP
- SCLBSID
- SIEASID

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

### 6.1.4 Sample Jobs

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

<i>Figure 23. Sample Installation Jobs</i>			
Job Name	Job Type	Description	RELFILE
FUNALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set <b>(Optional)</b>	IBM.HAHL210.F1
FUNALB	SMP/E	Sample job to allocate SMP/E data sets <b>(Optional)</b>	IBM.HAHL210.F1
FUNRECEV	RECEIVE	Sample RECEIVE job for IMS Performance Solution Pack, FMID HAHL210	IBM.HAHL210.F1
FUNRECE1	RECEIVE	Sample RECEIVE job for IMS Problem Investigator, FMID H28T240	IBM.HAHL210.F1
FUNRECE2	RECEIVE	Sample RECEIVE job for IMS Performance Analyzer, FMID H23K440	IBM.HAHL210.F1
FUNRECE3	RECEIVE	Sample RECEIVE job for IMS Connect Extensions, FMID H28S310	IBM.HAHL210.F1
FUNALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HAHL210.F1
FUNDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HAHL210.F1
FUNAPPLY	APPLY	Sample APPLY job	IBM.HAHL210.F1
FUNACCEP	ACCEPT	Sample ACCEPT job	IBM.HAHL210.F1

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, “Perform SMP/E RECEIVE” on page 29) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 23 to find the appropriate relfile data set.

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.HAHL210.F1,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.HAHL210.F1,UNIT=tunit,
/* VOL=SER=AHL210,LABEL=(2,SL),
/* DISP=(OLD,KEEP)
//*****
/* Make the //FILEIN DD statement below active for *
/* downloaded DASD files. *
//*****
/*FILEIN DD DSN=IBM.HAHL210.F1,UNIT=SYSALLDA,DISP=SHR,
/* VOL=SER=filevol
//OUT DD DSN=jc1-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.HAHL210.F1 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 FUNALA to allocate the SMP/E data set for IMS Performance Solution Pack. 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 FUNALB to initialize SMP/E zones for IMS Performance Solution Pack. 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 Solution Pack as part of a CBPDO, use the RCPVDO job in the CBPDO RIMLIB data set to receive the IMS Performance Solution Pack 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 FUNRECEV to perform the SMP/E RECEIVE for IMS Performance Solution Pack, FMID H AHL210. Consult the instructions in the sample job for more information.

Edit and submit sample job FUNRECE1 to perform the SMP/E RECEIVE for IMS Problem Investigator, FMID H28T240. Consult the instructions in the sample job for more information.

Edit and submit sample job FUNRECE2 to perform the SMP/E RECEIVE for IMS Performance Analyzer, FMID H23K440. Consult the instructions in the sample job for more information.

Edit and submit sample job FUNRECE3 to perform the SMP/E RECEIVE for IMS Connect Extensions, FMID H28S310. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** You will receive a return code of 0, from all of these jobs, if they run correctly.

## 6.1.8 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job FUNALLOC to allocate the SMP/E target and distribution libraries for IMS Performance Solution Pack. 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 FUNDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IMS Performance Solution Pack. 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 FUNAPPLY to perform an SMP/E APPLY CHECK for IMS Performance Solution Pack. 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/holddata/390holddata.html>. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

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

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

Here are sample APPLY commands:

- 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 FUNACCEP to perform an SMP/E ACCEPT CHECK for IMS Performance Solution Pack. 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 Solution Pack, 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

Data sets allocated and used by previous release of installed products, are no longer used in this release. You can delete these obsolete data sets after you delete the previous release from your system. Refer to the following Program Directories for information on which data sets can be deleted from your system.

- Publication number GI10-8704 for IBM IMS Problem Investigator for z/OS Program Directory
- Publication number GI10-8703 for IBM IMS Performance Analyzer for z/OS Program Directory
- Publication number GI13-4903 for IBM IMS Connect Extensions for z/OS Program Directory

Data Set Definitions (DDDEFs) created and used by previous product releases, are no longer used in this release. You can delete these obsolete DDDEF entries after you have deleted the previous product releases from your system. Refer to the following Program Directories for information on which DDDEFs that can be deleted from your system.

- Publication number GI10-8704 for IBM IMS Problem Investigator for z/OS Program Directory
- Publication number GI10-8703 for IBM IMS Performance Analyzer for z/OS Program Directory
- Publication number GI13-4903 for IBM IMS Connect Extensions for z/OS Program Directory

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## 6.2 Activating IMS Performance Solution Pack

### 6.2.1 Product Customization

For customization and use of IMS Performance Solution Pack refer to IBM IMS Performance Solution Pack for z/OS: Overview and Customization, SC27-9519.

For customization and use of specific components of IMS Performance Solution Pack:

- IBM IMS Problem Investigator for z/OS User's Guide, SC19-4367
- IBM IMS Performance Analyzer for z/OS User's Guide, SC19-4365
- IBM IMS Performance Analyzer for z/OS Report Reference, SC19-4366
- IBM IMS Connect Extensions for z/OS User's Guide, SC27-9517
- IBM IMS Performance Solution Pack for z/OS: Overview and Customization, SC27-9519
- IBM IMS Performance Solution Pack for z/OS License Information, LC27-9520
- IBM Tools Base for z/OS IMS Tools Common Services User's Guide, SC19-4371

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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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## Reader's Comments

### Program Directory for IBM IMS Performance Solution Pack for z/OS, December 2018

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