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

V01.03.00
Program Number 5655-S42

FMIDs HAHL130, H28T240, H23K440, H28S240, H30S240

for Use with
z/OS

Document Date: June 2015
Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 39.
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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, IBM IMS Connect Extensions for z/OS as IMS Connect Extensions, IBM Functional Support Library Server as Functional Support Library Server, and IBM Common Services Library for z/OS as Common Services Library.

Before installing the Functional Support Library Server, H30S240, refer to 5.4, “Special Considerations” on page 29.

The Program Directory contains the following sections:

- **2.0, “Program Materials” on page 10** identifies the basic program materials and documentation for IMS Performance Solution Pack.

- **3.0, “Program Support” on page 15** describes the IBM support available for IMS Performance Solution Pack.

- **4.0, “Program and Service Level Information” on page 17** 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 19** identifies the resources and considerations that are required for installing and using IMS Performance Solution Pack.

- **6.0, “Installation Instructions” on page 30** 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 15 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, V1.3 (5655-S42) 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.

- IMS Connect Extensions for z/OS is a tool that enhances the manageability of TCP/IP access to IMS through IMS Connect, an integrated function of IMS.
- IMS Performance Analyzer for z/OS provides comprehensive transaction performance and system resource usage reporting for your IMS DB and IMS TM systems.
- IMS Problem Investigator for z/OS enables interactive analysis of log files to help users gain insight into IMS transaction events within and across systems.

**IMS Connect Extensions for z/OS**

IMS Connect Extensions for z/OS is an application management tool that enhances the manageability of TCP/IP access to IMS through IMS Connect, an integrated function of IMS. IMS Connect Extensions for z/OS provides the following features:

- Monitoring and recording of IMS Connect activity: IMS Connect Extensions offers a detailed audit of activity, providing information to help analyze performance, throughput, resource availability, and security. This information helps to debug client programs and new applications.
- Single point of control for multiple IMS Connect systems: Centralized management and control of IMS Connect systems, including Open Transaction Manager Access (OTMA), Open Database Manager (ODBM), and Multiple Systems Communication (MSC) workloads, from an ISPF dialog or from a distributed workstation.
- Enhanced transaction management: Dynamic management of TCP/IP transactions allows the definition of rules to automatically distribute workloads and reroute messages when network failures occur; ability to assign selected OTMA routing rules to a routing plan and dynamically switch between routing plans; automatic response to changes in the IMS environment such as dynamically added datastores and flood conditions.
- Enhanced Open Database management: Dynamic management of TCP/IP Distributed Relational Database Architecture (DRDA) requests, allowing rules to be defined to distribute workload based on capacity or by relative CPU costs; ability to assign selected ODBM routing rules to a routing plan and dynamically switch between routing plans.
- Socket management: Controls the number of input messages for a persistent session, allowing automatic distribution of persistent session workloads in a sysplex environment.
- Enhanced security: Control access to OTMA transactions or DRDA request based on the client IP address and IMS Connect port number, and to IMS Connect instances, through a system authorization facility (SAF) security class.
- Improved client services: Additional features for IMS Connect clients such as enhanced information in error messages, password change facility, and extended message translation.
These features can help to:

- Improve the availability, reliability, and performance of IMS Connect.
- Speed and simplify problem determination.
- Make your systems more transparent so that they are easier to audit and manage.

IMS Connect Extensions consists of:

- Components that run with IMS Connect.
- Journal data sets that record IMS Connect activity.
- An ISPF dialog-based client to manage IMS Connect systems and their IMS Connect Extensions features.
- IMS Connect Extensions Operations Console, a GUI client.

With IMS Connect Extensions for z/OS, the functionality and usability of the product are improved as follows:

- Operational adaptability and transactional continuity
  - Drain/Resume/Autoresume feature allows the OTMA routing status of a datastore to be suspended temporarily when an IMS system is stopped. When drained, the datastore will not be a candidate for IMS Connect Extensions Routing, but responses to outstanding transactions will be returned to the client.
  - The session drain command allows safe closure of specific sessions without interrupting in-flight messages.
  - The Session Message Limit option specifies the maximum number of input messages for a persistent session. This allows the balance of sessions across IMS Connect systems to be maintained in environments where a session distribution mechanism is used.
  - Routing plans provide the ability to logically group OTMA and ODBM routing rules and to dynamically swap between different plans.
  - The pre-routing user exit for rules based routing provides a customizable service that can be used to prevent messages being routed to specific datastores based on the availability or health of a specific transaction on the IMS system.
  - Datastore ADD command allows to dynamically add a datastore that has been defined in IMS Connect to the IMS Connect Extensions inventory.
  - OTMA Global Flood Warning support helps protect IMS systems from experiencing an abend due to a message flood condition.
  - Support for dynamically added IMS Connect ports (introduced in IMS V13).
  - Support for dynamically added IMS Connect datastores (introduced in IMS V13).
  - New keywords on the CEXROUTE control option specify routing behavior in cases where an input message would not be covered by a routing rule.
  - Ability to assign datastores and Open Database targets a relative processing capacity of zero, making them temporarily ineligible as routing candidates.

- Automation
  - New IMS Connect Extensions host command environment for REXX that allows more flexible and cohesive batch operational automation of IMS Connect environments. It also allows for tighter integration with existing operational processes.
The IMS Connect Extensions host command environment for REXX includes all commands supported in the Batch Command Utility. New host commands include ROUTE, ADD, UPDATE, DRAIN, SET PLAN, SHELL, and WTO. New host QUERY command options include PLAN, SESSIONS, and ACEE_CACHE.

New ROUTE host command for REXX enables automation of datastore drain and restore.

New QUERY PENDING_RESPONSES host command for REXX returns the number of messages being processed for the datastore in IMS. This allows an automated script to drain and then safely shut down an IMS system when the number of pending inbound and outbound messages falls to zero.

New UPDATE host command for REXX allows certain settings to be changed. For example, datastore and alias capacity weights, event collection level, and session message limit options.

Usability

New SHELL host command for REXX runs a command on a specified target system or datastore.

New ICON_CONTROL PORT control option specifies a dedicated IMS Connect port which is to be used for routing IMS Type-1 commands that are issued from IMS Connect Extensions.

Enhancements to the archive journal cleanup utility (CLEAN) simplify management of journal data sets.

Enhancements to the Status Monitor in the ISPF dialog and Operations Console

Datastore Monitor shows the status of a datastore with respect to IMS, IMS Connect, and IMS Connect Extensions routing. It also shows the total outstanding responses for each datastore.

Enhancements to Operations Console

Message Count field displays the number of input messages received so far by the session.

Tabbed Active Sessions with views for OTMA, ODBM, and MSC workloads.

Tabbed Status Monitor with view for IMS Connects, Ports, Datastores, Exits, ODBMs, and Aliases.

Other enhancements

Specific support for zIIP(1) offload.

Ability to qualify rules-based routing by transaction code.

Alternate transaction code support provides a way to route transactions using something other than the primary transaction code.

Display ACEE cache statistics in ISPF dialog.

Support for IMS V13.

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:

• 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 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.
  – 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.

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 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 REXXX 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:

• 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 V13 support
  – Supports new and changed log record types introduced in IMS V13.

• DB2 11 for z/OS support
  – 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 for IMS V13
  – IMS Connect events codes are extended from one byte to two to support the new IMS V13 Connect events 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.

Key features provided in IMS Performance Solution Pack for z/OS, V1.3
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, V1.3. Refer to the Ordering Information section.

1.2 IMS Performance Solution Pack FMIDs

IMS Performance Solution Pack consists of the following FMIDs:

- HAHL130 - IMS Performance Solution Pack
- H28T240 - IMS Problem Investigator
- H23K440 - IMS Performance Analyzer
- H28S240 - IMS Connect Extensions
- H30S240 - Functional Support Library Server
Note:
The IBM Functional Support Library Server is now superseded by IBM Common Services Library for z/OS, which is offered as a no charge, separately orderable, licensed product. Before installing FMID H30S240, refer to 5.4, “Special Considerations” on page 29 or the latest information with regard to this FMID.
2.0 Program Materials

An IBM program is identified by a program number. The program number for IMS Performance Solution Pack is 5655-S42.

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.

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 30 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.

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

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

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<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.H23K440.F6</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.H23K440.F7</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.H23K440.F8</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.H23K440.F9</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
<tr>
<td>IBM.H23K440.F10</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>8800</td>
</tr>
</tbody>
</table>
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 6 on page 13 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:


<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
<th>Media Format</th>
</tr>
</thead>
</table>

2.3.1 Optional Program Publications

No optional publications are provided for IMS Performance Solution Pack.

2.4 Program Source Materials

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

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 7 during the installation of IMS Performance Solution Pack.
<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
<th>Media Format</th>
</tr>
</thead>
</table>
3.0 Program Support

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

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 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 34 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:


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 8.

<table>
<thead>
<tr>
<th>UPGRADE</th>
<th>SUBSET</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655S42</td>
<td>HAHL130</td>
<td>IMS Performance Solution Pack</td>
</tr>
<tr>
<td>5655R02</td>
<td>H28T240</td>
<td>IMS Problem Investigator</td>
</tr>
<tr>
<td>5655R03</td>
<td>H23K440</td>
<td>IMS Performance Analyzer</td>
</tr>
<tr>
<td>5655S56</td>
<td>H28S240</td>
<td>IMS Connect Extensions</td>
</tr>
</tbody>
</table>

Figure 8 (Page 1 of 2). PSP Upgrade and Subset ID
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 9 identifies the component IDs (COMPID) for IMS Performance Solution Pack.

<table>
<thead>
<tr>
<th>FMID</th>
<th>COMPID</th>
<th>Component Name</th>
<th>RETAIN Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAHL130</td>
<td>5655S4200</td>
<td>IMS Performance Solution Pack</td>
<td>130</td>
</tr>
<tr>
<td>H28T240</td>
<td>5655K5000</td>
<td>IMS Problem Investigator</td>
<td>240</td>
</tr>
<tr>
<td>H23K440</td>
<td>5655E1500</td>
<td>IMS Performance Analyzer</td>
<td>440</td>
</tr>
<tr>
<td>H28S240</td>
<td>5655K4800</td>
<td>IMS Connect Extensions</td>
<td>240</td>
</tr>
<tr>
<td>H30S240</td>
<td>5655K4801</td>
<td>Functional Support Library Server</td>
<td>240</td>
</tr>
</tbody>
</table>
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

The following APAR fixes against previous releases of IMS Performance Solution Pack have been incorporated into this release. They are listed by FMID.

- FMID H28T230 (IMS Problem Investigator):

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

- FMID H23K430 (IMS Performance Analyzer):

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

- FMID H28S230 (IMS Connect Extensions):
4.2 Service Level Information

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

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-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 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
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.

IMS Performance Solution Pack 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 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.

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name and Minimum VRM/Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any one of the following:</td>
<td></td>
</tr>
<tr>
<td>5635-A03</td>
<td>IBM IMS V12.01.00</td>
</tr>
<tr>
<td>5655-DSQ</td>
<td>IBM IMS Database Value Unit Edition, V12.01.00 with PTF UK93908</td>
</tr>
<tr>
<td>5655-TM1</td>
<td>IBM IMS Transaction Manager Value Unit Edition, V12.01.00</td>
</tr>
<tr>
<td>5635-A04</td>
<td>IBM IMS V13.01.00</td>
</tr>
<tr>
<td>5655-DSM</td>
<td>IBM IMS Database Value Unit Edition, V13.01.00</td>
</tr>
<tr>
<td>5655-TM2</td>
<td>IBM IMS Transaction Manager Value Unit Edition, V13.01.00</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name and Minimum VRM/Service Level</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655-V93</td>
<td>IBM Tools Base for z/OS, V01.04.00 or higher</td>
<td>For offloading IMS Log reports to the IMS Tools Knowledge Base repository -- required by IMS Performance Analyzer, FMID H23K440 (the FMID is included in this Solution Pack)</td>
</tr>
<tr>
<td>5697-P37</td>
<td>IBM Transaction Analysis Workbench for z/OS V01.02.00 or higher</td>
<td>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)</td>
</tr>
<tr>
<td>5655-U87</td>
<td>IBM CICS Performance Analyzer for z/OS, V03.02.00 or higher</td>
<td>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)</td>
</tr>
</tbody>
</table>

Any one of the following:
<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name and Minimum VRM/Service Level</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>5698-A34</td>
<td>IBM Tivoli OMEGAMON XE for IMS on z/OS V04.02.00 or higher</td>
<td>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)</td>
</tr>
<tr>
<td>5698-T02</td>
<td>IBM Tivoli OMEGAMON XE for IMS on z/OS V05.01.00 or higher</td>
<td>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)</td>
</tr>
<tr>
<td></td>
<td>Any one of the following:</td>
<td></td>
</tr>
<tr>
<td>5605-DB2</td>
<td>IBM DB2 for z/OS, V10.01</td>
<td>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)</td>
</tr>
<tr>
<td>5697-P31</td>
<td>IBM DB2 for z/OS Value Unit Edition, V10.01</td>
<td>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)</td>
</tr>
<tr>
<td>5615-DB2</td>
<td>IBM DB2 for z/OS, V11.01</td>
<td>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)</td>
</tr>
<tr>
<td>5697-P37</td>
<td>IBM DB2 for z/OS Value Unit Edition, V11.01</td>
<td>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)</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Total Space Required in 3390 Trks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>4243 tracks</td>
</tr>
<tr>
<td>Distribution</td>
<td>4243 tracks</td>
</tr>
</tbody>
</table>

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. Depending on maintenance applied, the stated DASD space requirements may not be sufficient and data set allocations may need to be increased over time to match the needs of your environment.

2. 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.

3. 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.
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.

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 34.

4. All target and distribution libraries listed have the following attributes:
   - The default name of the data set can be changed.
   - The default block size of the data set can be changed.
   - The data set can be merged with another data set that has equivalent characteristics.
   - The data set can be either a PDS or a PDSE.

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

6. All target libraries that are listed and contain load modules have the following attributes:
   - These data sets can be in the LPA, but they are not required to be in the LPA, 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 LNKLST.
   - 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

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Member</th>
<th>Type</th>
<th>Target Volume</th>
<th>RECL E</th>
<th>RECL M</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFUNBASE SAMPLE</td>
<td>Any</td>
<td>U</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>6</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### Figure 15. Storage Requirements for IMS Problem Investigator Target Libraries

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Member</th>
<th>Type</th>
<th>Target Volume</th>
<th>RECL E</th>
<th>RECL M</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALZBASE Sample</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>SALZEXEC Exec</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>7</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>SALZLINK LMOD</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>U</td>
<td>0</td>
<td>1069</td>
<td>270</td>
<td></td>
</tr>
<tr>
<td>SALZMENU Message</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>SALZPENU Panel</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>85</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>SALZSAMP Sample</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>12</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>SALZSENU Skeleton</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>SALZTENU Table</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### Figure 16. Storage Requirements for IMS Performance Analyzer Target Libraries

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Member</th>
<th>Type</th>
<th>Target Volume</th>
<th>RECL E</th>
<th>RECL M</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIPIBASE Sample</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>SIPIEXEC Exec</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>84</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>SIPILINK LMOD</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>U</td>
<td>0</td>
<td>252</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>SIPIMAC Macro</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>34</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SIPIMENU Message</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>7</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>SIPIPENU Panel</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>285</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>SIPISAMP Sample</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>17</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>SIPISENU Skeleton</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>SIPITENU Table</td>
<td>Any</td>
<td>S</td>
<td>PDS</td>
<td>FB</td>
<td>80</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
**Figure 17. Storage Requirements for IMS Connect Extensions Target Libraries**

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Target Volume</th>
<th>T</th>
<th>Y</th>
<th>O</th>
<th>P</th>
<th>R</th>
<th>F</th>
<th>C</th>
<th>E</th>
<th>L</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
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<td>S</td>
<td>P</td>
<td>DS</td>
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<tr>
<td>SCEXEXEC</td>
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<td>DS</td>
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<td>DS</td>
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<td>1667</td>
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<td>S</td>
<td>P</td>
<td>DS</td>
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<td>P</td>
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<td>DS</td>
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<td>SCEXSEN   U</td>
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<td>S</td>
<td>P</td>
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<td>FB</td>
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<tr>
<td>SCEXTENU</td>
<td>Table</td>
<td>Any</td>
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<td>P</td>
<td>DS</td>
<td>FB</td>
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<td>2</td>
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</table>

**Figure 18. Storage Requirements for Functional Support Library Server Target Libraries**

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Target Volume</th>
<th>T</th>
<th>Y</th>
<th>O</th>
<th>P</th>
<th>R</th>
<th>F</th>
<th>C</th>
<th>E</th>
<th>L</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFUNLINK</td>
<td>LMOD</td>
<td>Any</td>
<td>S</td>
<td>P</td>
<td>DS</td>
<td>U</td>
<td>0</td>
<td>77</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFUNSAMP</td>
<td>Sample</td>
<td>Any</td>
<td>S</td>
<td>P</td>
<td>DS</td>
<td>FB</td>
<td>80</td>
<td>9</td>
<td>4</td>
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</table>

**Figure 19. Storage Requirements for IMS Performance Solution Pack Distribution Libraries**

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Target Volume</th>
<th>T</th>
<th>Y</th>
<th>O</th>
<th>P</th>
<th>R</th>
<th>F</th>
<th>C</th>
<th>E</th>
<th>L</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFUNBASE</td>
<td>U</td>
<td>P</td>
<td>DS</td>
<td>FB</td>
<td>80</td>
<td>6</td>
<td>2</td>
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</table>
### Figure 20. Storage Requirements for IMS Problem Investigator Distribution Libraries

<table>
<thead>
<tr>
<th>Library</th>
<th>DDNAME</th>
<th>T</th>
<th>Y</th>
<th>O</th>
<th>P</th>
<th>R</th>
<th>F</th>
<th>E</th>
<th>C</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
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</thead>
<tbody>
<tr>
<td>AALZBASE</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>2</td>
<td>2</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
<td>270</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AALZEXEC</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>7</td>
<td>2</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
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<td></td>
</tr>
<tr>
<td>AALZLINK</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>6</td>
<td>6</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
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<td></td>
</tr>
<tr>
<td>AALZPENU</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>12</td>
<td>4</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
<td>270</td>
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</tr>
<tr>
<td>AALZSAMP</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>12</td>
<td>4</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
<td>270</td>
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</tr>
<tr>
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<tr>
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<td>FB</td>
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<td>3390</td>
<td>Trks</td>
<td>1069</td>
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</tbody>
</table>

### Figure 21. Storage Requirements for IMS Performance Analyzer Distribution Libraries

<table>
<thead>
<tr>
<th>Library</th>
<th>DDNAME</th>
<th>T</th>
<th>Y</th>
<th>O</th>
<th>P</th>
<th>R</th>
<th>F</th>
<th>E</th>
<th>C</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIPIBASE</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>2</td>
<td>2</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
<td>270</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIPISEXEC</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>64</td>
<td>5</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
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<td></td>
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<tr>
<td>AIPILINEK</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>64</td>
<td>5</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>APIPIMAC</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>64</td>
<td>5</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
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<td></td>
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<tr>
<td>AIPIMEN</td>
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<td>80</td>
<td>64</td>
<td>5</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
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</tr>
<tr>
<td>AIPISAMP</td>
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<td>1069</td>
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</tr>
<tr>
<td>AIPITEN</td>
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<td>80</td>
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<td>Trks</td>
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</table>

### Figure 22. Storage Requirements for IMS Connect Extensions Distribution Libraries

<table>
<thead>
<tr>
<th>Library</th>
<th>DDNAME</th>
<th>T</th>
<th>Y</th>
<th>O</th>
<th>P</th>
<th>R</th>
<th>F</th>
<th>E</th>
<th>C</th>
<th>No. of 3390 Trks</th>
<th>No. of DIR Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACXBASE</td>
<td>S PDS</td>
<td>FB</td>
<td>80</td>
<td>5</td>
<td>2</td>
<td>3390</td>
<td>Trks</td>
<td>1069</td>
<td>270</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.

**H30S240 - IBM Functional Support Library Server:**

FMID H30S240, Functional Support Library Server, is not only delivered with IMS Connect Extensions and the IMS Performance Solution Pack, but also with Tools Base, V1.5 (replaces the Tools Base Connection Server for z/OS component delivered with Tools Base, V1.4).

FMID H30S240 provides the environment required by the Eclipse-based GUI plug-in of IBM IMS Configuration Manager for z/OS, V2.1, or higher (5655-WR2) and IBM Transaction Analysis Workbench for z/OS, V1.2, or higher (5697-P37).

**Important update regarding the Functional Support Library Server, FMID H30S240, and its successor, Common Services Library, FMID H30SA10:**

IBM Common Services Library for z/OS, V1.1 (5655-CSL) is a new offering and replaces (deletes and supersedes) FMID H30S240 and its predecessors. It is a no-charge, separately licensed offering and we recommend ordering and installing this offering in order to simplify your installation.

If you have Common Services Library already installed in the same SMP/E CSI and you attempt to install FMID H30S240, you will receive message:

GIM37901E ** APPLY PROCESSING FAILED FOR SYSMOD H3/zerodotS24/zerodot BECAUSE IT WAS PREVIOUSLY SUPERSEDED.

This is expected and the error condition can be ignored.

If you install Common Services Library in the same SMP/E CSI as H30S240, FMID H30S240 is deleted from your SMP/E CSI environment.

This is expected and acceptable.

If you install Common Services Library in a different SMP/E CSI than where you install FMID H30S240, both FMIDs, H30S240 and H30SA10, will be installed.

This is not recommended.

All products that function with FMID H30S240 also function with FMID H30SA10 delivered with Functional Support Library Server.

Refer to the IBM Common Services Library for z/OS, V1.1 User's Guide, SC27-6753, for additional information.
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 24. 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.

<table>
<thead>
<tr>
<th>Subentry</th>
<th>Value</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSSPACE</td>
<td>(7000,200,500)</td>
<td>3390 DASD tracks</td>
</tr>
<tr>
<td>PEMAX</td>
<td>SMP/E Default</td>
<td>IBM recommends using the SMP/E default for PEMAX.</td>
</tr>
</tbody>
</table>
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:

- SCEELKED

**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:

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Job Type</th>
<th>Description</th>
<th>RELFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNALA</td>
<td>SMP/E</td>
<td>Sample job to allocate and initialize a new SMP/E CSI data set</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>(Optional)</em></td>
<td></td>
</tr>
<tr>
<td>FUNALB</td>
<td>SMP/E</td>
<td>Sample job to allocate SMP/E data sets <em>(Optional)</em></td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNRECEV</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for IMS Performance Solution Pack, FMID HAH130</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNRECE1</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for IMS Problem Investigator, FMID H28T240</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNRECE2</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for IMS Performance Analyzer, FMID H23K440</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNRECE3</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for IMS Connect Extensions, FMID H28S240</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNRECE4</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for Functional Support Library Server, FMID H30S240</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNALLOC</td>
<td>ALLOCATE</td>
<td>Sample job to allocate target and distribution libraries</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNDDDEF</td>
<td>DDDEF</td>
<td>Sample job to define SMP/E DDDEFs</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNAPPLY</td>
<td>APPLY</td>
<td>Sample APPLY job</td>
<td>IBM.HAHL130.F1</td>
</tr>
<tr>
<td>FUNACCEP</td>
<td>ACCEPT</td>
<td>Sample ACCEPT job</td>
<td>IBM.HAHL130.F1</td>
</tr>
</tbody>
</table>

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, “Perform SMP/E RECEIVE” on page 33) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 25 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.HAHL130.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.HAHL130.F1,UNIT=tunit,  
// VOL=SER=AHL130,LABEL=(2,SL),  
// DISP=(OLD,KEEP)  
// *********************************************************************  
// Make the //FILEIN DD statement below active for  
// downloaded DASD files. *  
// *********************************************************************  
//FILEIN DD DSN=IBM.HAHL130.F1,UNIT=SYSALLDA,DISP=SHR,  
// VOL=SER=filevol  
//OUT DD DSNAME=jcl-library-name,  
// DISP=(NEW,CATLG,DELETE),  
// VOL=SER=dasdevol,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.HAHL130.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 RCVPDO 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 HAHL130. 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 H28S240. Consult the instructions in the sample job for more information.

Edit and submit sample job FUNRECE4 to perform the SMP/E RECEIVE for Functional Support Library Server, FMID H30S240. 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 FUNDDDEF 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
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

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

- AALZLOAD
- AIPILOAD
- ACEXLOAD
- SCEXMAC / ACEXMAC
- SCEXNOTC / ACEXNOTC
- AFUNLOAD

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

- AALZLOAD
- AIPILOAD
- ACEXLOAD
- SCEXMAC / ACEXMAC
- SCEXNOTC / ACEXNOTC
- AFUNLOAD

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, SC19-4369.

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 Report Reference, SC19-4366
- IBM IMS Connect Extensions for z/OS User’s Guide, SC19-4364

Refer to the IBM IMS Connect Extensions for z/OS User's Guide, (SC19-4364), and to member CEXREAD in the SCEXGENU library on hardware and software requirements and instructions how to install and use.
the IMS Connect Extensions Operations Console, a component of IMS Connect Extensions. The Operations Console is installed as a plug-in to IBM Explorer for z/OS (z/OS Explorer). It is a GUI alternative to the ISPF operations dialog. The Operation Console provides a graphical interface to perform IMS Connect Extensions operations and can be used to monitor and control IMS Connect systems, their components, and active sessions from a distributed workstation. It is designed to operate on Windows platforms supported by z/OS Explorer Version 2.1 or later. The z/OS Explorer can be downloaded from the IBM Explorer for z/OS website:
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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, June 2015

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