IBM

Program Directory for

IBM IMS Connect Extensions for z/OS

V02.04.00

Program Number 5655-S56

FMIDs H28S240, H30S240

for Use with
z/OS

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GI10-8758-05

> **Note**
>
> Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 30.

Contents

Figures

1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of IBM IMS Connect Extensions for z/OS. This publication refers to 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 18.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 6 identifies the basic program materials and documentation for IMS Connect Extensions.

- 3.0, "Program Support" on page 9 describes the IBM support available for IMS Connect Extensions.

- 4.0, "Program and Service Level Information" on page 11 lists the APARs (program level) and PTFs (service level) that have been incorporated into IMS Connect Extensions.

- 5.0, "Installation Requirements and Considerations" on page 12 identifies the resources and considerations that are required for installing and using IMS Connect Extensions.

- 6.0, "Installation Instructions" on page 20 provides detailed installation instructions for IMS Connect Extensions. It also describes the procedures for activating the functions of IMS Connect Extensions, or refers to appropriate publications.

Before installing IMS Connect Extensions, 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 9 tells you how to find any updates to the information and procedures in this program directory.

IMS Connect Extensions 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 Connect Extensions are included on the CBPDO tape.

Do not use this program directory if you install IMS Connect Extensions with a SystemPac or ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

1.1 IMS Connect Extensions Description

IBM IMS Connect Extensions for z/OS, V2.4 (5655-S56) 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 requests 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 you 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 for z/OS 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, V2.4, the functionality and usability of the product is 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 users 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 fro the datatstore in IMS. This allows an automated script to drain and the safely shut down an IMS system when the number of penidng 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 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.

1.2 IMS Connect Extensions FMIDs

IMS Connect Extensions consists of the following FMIDs:

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   18 for 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 Connect Extensions is 5655-S56.

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

2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 20 for more information about how to install the program.

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

Figure 1 describes the program file content for IMS Connect Extensions. You can refer to the *CBPDO Memo To Users Extension* to see where the files reside on the tape.

Notes:

1. The data set attributes in this table must be used in the JCL of jobs that read the data sets. However, because the data sets are in IEBCOPY unloaded format, their actual attributes might be different.

2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1 (Page 1 of 2). Program File Content for H28S240 - IMS Connect Extensions				
Name	**O R G**	**R E C F M**	**L R E C L**	**BLK SIZE**
SMPMCS	SEQ	FB	80	6400
IBM.H28S240.F1	PDS	FB	80	8800
IBM.H28S240.F2	PDS	FB	80	8800
IBM.H28S240.F3	PDS	FB	80	8800
IBM.H28S240.F4	PDS	VB	255	27998
IBM.H28S240.F5	PDS	U	0	6144

Figure 1 (Page 2 of 2). Program File Content for H28S240 - IMS Connect Extensions				
Name	**O R G**	**R E C F M**	**L R E C L**	**BLK SIZE**
IBM.H28S240.F6	PDS	FB	80	8800
IBM.H28S240.F7	PDS	FB	80	8800
IBM.H28S240.F8	PDS	VB	133	27998
IBM.H28S240.F9	PDS	FB	80	8800
IBM.H28S240.F10	PDS	FB	80	8800
IBM.H28S240.F11	PDS	FB	80	8800

Figure 2. Program File Content for H30S240 - Functional Support Library Server				
Name	**O R G**	**R E C F M**	**L R E C L**	**BLK SIZE**
SMPMCS	SEQ	FB	80	6400
IBM.H30S240.F1	PDS	FB	80	8800
IBM.H30S240.F2	PDS	U	0	6144
IBM.H30S240.F3	PDS	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for IMS Connect Extensions.

2.3 Program Publications

The following sections identify the basic publications for IMS Connect Extensions.

Figure 3 identifies the basic unlicensed publications for IMS Connect Extensions. 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 3. Basic Material: Unlicensed		
Publication Title	**Form Number**	**Media Format**
IBM IMS Connect Extensions for z/OS License Information	GC19-1164	http://www.ibm.com/software/sla/sladb.nsf
IBM IMS Connect Extensions for z/OS User Guide	SC19-4364	http://www.ibm.com/software/data/db2imstools/library.html

2.3.1 Optional Program Publications

No optional publications are provided for IMS Connect Extensions.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for IMS Connect Extensions.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 4 during the installation of IMS Connect Extensions.

Figure 4. Publications Useful During Installation		
Publication Title	**Form Number**	**Media Format**
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA22-7770	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Commands	SA22-7771	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Reference	SA22-7772	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS User's Guide	SA22-7773	http://www.ibm.com/shop/publications/order/
IBM Common Services Library for z/OS User's Guide	SC27-6753	http://www.ibm.com/support/docview.wss?uid=swg27020942

3.0 Program Support

This section describes the IBM support available for IMS Connect Extensions.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IMS Connect Extensions, 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 25 for a sample APPLY command.

If you obtained IMS Connect Extensions as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IMS Connect Extensions 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 Connect Extensions are included in Figure 5

Figure 5. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5655S56	H28S240	IMS Connect Extensions
5655S56	H30S240	Functional Support Library

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 6 on page 10 identifies the component IDs (COMPID) for IMS Connect Extensions.

Figure 6. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
H28S240	5655K4800	IMS CONNECT EXTS	240
H30S240	5655K4801	FUNC SUPP LIBRARY	240

4.0 Program and Service Level Information

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

- FMID H28S230 IMS Connect Extensions

PM63177	PM83597	PI05160
PM64619	PM88680	PI08666
PM69452	PM93539	PI14688
PM75600	PM94431	PI20500
PM76242	PM96836	PI24404
PM77360		

- FMID H30S230 Functional Support Library Server

PM67051	PM88073	PI08345
PM72155	PM96856	PI13587
PM79685	PM98844	PM63179
PM82767		

4.2 Service Level Information

No PTFs against this release of IMS Connect Extensions have been incorporated into the product package.

Frequently check the IMS Connect Extensions 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 Connect Extensions. 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 Connect Extensions.

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

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

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

5.2 Target System Requirements

This section describes the environment of the target system required to install and use IMS Connect Extensions.

IMS Connect Extensions 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 Connect Extensions 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 Connect Extensions 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 8. Target System Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following:	
5635-A03	IBM IMS, V12.01.00
5655-DSQ	IBM IMS Database Value Unit Edition, V12.01.00 with PTF UK93908
5655-TM1	IBM IMS Transaction Manager Value Unit Edition, V12.01.00
5635-A04	IBM IMS, V13.01.00
5655-DSM	IBM IMS Database Value Unit Edition, V13.01.00
5655-TM2	IBM IMS Transaction Manager Value Unit Edition, V13.01.00

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

Refer to 6.2, "Product Customization" on page 29 for details of any conditional operational requisites.

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 Connect Extensions 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 Connect Extensions has no negative requisites.

5.2.3 DASD Storage Requirements

IMS Connect Extensions libraries can reside on all supported DASD types.

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

Figure 9. Total DASD Space Required by IMS Connect Extensions	
Library Type	**Total Space Required in 3390 Trks**
Target	2275 tracks for H28S240
Target	86 tracks for H30S240
Distribution	2275 tracks for H28S240
Distribution	86 tracks for H30S240

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.

   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 25.

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:

- IMS Connect Extensions load library cannot be placed in LPA since not all parts in it are re-entrant.
- The data set can be placed 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 Connect Extensions. The storage requirements of IMS Connect Extensions must be added to the storage required by other programs that have data in the same library.

Note: Use the data in these tables to determine which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 10. Storage Requirements for IMS Connect Extensions Target Libraries								
Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SCEXBASE	Sample	Any	U	PDS	FB	80	5	2
SCEXEXEC	Exec	Any	U	PDS	FB	80	6	2
SCEXGENU	Data	Any	U	PDS	VB	255	1667	5
SCEXLINK	LMOD	Any	U	PDS	U	0	376	35
SCEXMACS	Macro	Any	U	PDS	FB	80	68	20
SCEXMENU	Message	Any	U	PDS	FB	80	5	5
SCEXPENU	Panel	Any	U	PDS	FB	80	118	50
SCEXSAMP	Sample	Any	U	PDS	FB	80	26	6
SCEXSENU	Skel	Any	U	PDS	FB	80	2	2
SCEXTENU	Table	Any	U	PDS	FB	80	2	2

Figure 11. Storage Requirements for Functional Support Library Server Target Libraries								
Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SFUNLINK	LMOD	Any	S	PDS	U	0	77	50
SFUNSAMP	Sample	Any	S	PDS	FB	80	9	4

Figure 12. Storage Requirements for IMS Connect Extensions Distribution Libraries							
Library DDNAME		TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ACEXBASE		U	PDS	FB	80	5	2
ACEXEXEC		U	PDS	FB	80	6	2
ACEXGENU		U	PDS	VB	255	1667	5
ACEXLINK		U	PDS	U	0	376	35
ACEXMACS		U	PDS	FB	80	68	20
ACEXMENU		U	PDS	FB	80	5	5
ACEXPENU		U	PDS	FB	80	118	50
ACEXSAMP		U	PDS	FB	80	26	6
ACEXSENU		U	PDS	FB	80	2	2
ACEXTENU		U	PDS	FB	80	2	2

Figure 13. Storage Requirements for Functional Support Library Server Distribution Libraries							
Library DDNAME		TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
AFUNLINK		S	PDS	U	0	77	50
AFUNSAMP		S	PDS	FB	80	9	4

5.3 FMIDs Deleted

Installing IMS Connect Extensions 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 Connect Extensions 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

H30S240 - IBM Functional Support Library Server:
FMID H30S240, Functional Support Library Server, is not only delivered with IMS Connect Extensions, but also with Tools Base, V1.5 (replaces the Tools Base Connection Server for z/OS component delivered with Tools Base, V1.4), and IBM IMS Performance Solution Pack for z/OS, V1.3 (5655-S42).

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 H30S240 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 Common Services Library.

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

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 Connect Extensions.

Please note the following points:

- If you want to install IMS Connect Extensions 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 Connect Extensions

6.1.1 SMP/E Considerations for Installing IMS Connect Extensions

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

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 14. 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 14. 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 Connect Extensions uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When IMS Connect Extensions 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 Connect Extensions. These data sets are not updated during the installation of IMS Connect Extensions.

6.1.4 Sample Jobs

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

Figure 15. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
FUNIALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set **(Optional)**	IBM.H30S240.F3
FUNIALB	SMP/E	Sample job to allocate SMP/E data sets **(Optional)**	IBM.H30S240.F3
FUNIRECV	RECEIVE	Sample RECEIVE job for Functional Support Library Server	IBM.H30S240.F3
CEXRECEV	RECEIVE	Sample RECEIVE job for IMS Connect Extensions	IBM.H28S240.F2
FUNIALLO	ALLOCATE	Sample job to allocate target and distribution libraries for Functional Support Library Server	IBM.H30S240.F3
CEXALLOC	ALLOCATE	Sample job to allocate target and distribution libraries for IMS Connect Extensions	IBM.H28S240.F2
FUNIDDEF	DDDEF	Sample job to define SMP/E DDDEFs for Functional Support Library Server	IBM.H30S240.F3
CEXDDDEF	DDDEF	Sample job to define SMP/E DDDEFs for IMS Connect Extensions	IBM.H28S240.F2
FUNIAPLY	APPLY	Sample APPLY job	IBM.H30S240.F3
CEXAPPLY	APPLY	Sample APPLY job	IBM.H28S240.F2
FUNIACEP	ACCEPT	Sample ACCEPT job	IBM.H30S240.F3
CEXACCEP	ACCEPT	Sample ACCEPT job	IBM.H28S240.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, "Perform SMP/E RECEIVE" on page 24) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 15 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.

1. **IEBCOPY Job for IMS Connect Extensions, FMID H28S240:**

```
//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.H28S240.F2,UNIT=tunit,
//*          VOL=SER=volser,LABEL=(x,SL),
//*          DISP=(OLD,KEEP)
//*************************************************************
//* Make the //TAPEIN DD statement below active if you install*
//* from a product tape received outside the CBPDO process   *
//* (using the optional SMP/E RECEIVE job) by uncommenting    *
//* the DD statement below.                                   *
//*************************************************************
//*TAPEIN   DD DSN=IBM.H28S240.F2,UNIT=tunit,
//*          VOL=SER=28S240,LABEL=(3,SL),
//*          DISP=(OLD,KEEP)
//*************************************************************
//* Make the //FILEIN DD statement below active for          *
//* downloaded DASD files.                                   *
//*************************************************************
//*FILEIN   DD DSN=IBM.H28S240.F2,UNIT=SYSALLDA,DISP=SHR,
//*          VOL=SER=filevol
//OUT       DD DSNAME=jcl-library-name,
//          DISP=(NEW,CATLG,DELETE),
//          VOL=SER=dasdvol,UNIT=SYSALLDA,
//          SPACE=(TRK,(20,10,5))
//SYSUT3    DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN     DD *
    COPY INDD=xxxxIN,OUTDD=OUT
/*
```

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

TAPEIN:
   tunit is the unit value that matches the product package.
   volser is the volume serial that matches the product package.
   x is the tape file number that indicates the location of the data set name on the tape.
   See the documentation that is provided by CBPDO for the location of where IBM.H28S240.F2 is 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.

2. **IEBCOPY Job for Functional Support Library Server, FMID H30S240:**

```
//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.H30S240.F3,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.H30S240.F3,UNIT=tunit,
//*          VOL=SER=30S240,LABEL=(4,SL),
//*          DISP=(OLD,KEEP)
//*************************************************************
//* Make the //FILEIN DD statement below active for          *
//* downloaded DASD files.                                   *
//*************************************************************
//*FILEIN   DD DSN=IBM.H30S240.F3,UNIT=SYSALLDA,DISP=SHR,
//*          VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name,
//          DISP=(NEW,CATLG,DELETE),
//          VOL=SER=dasdvol,UNIT=SYSALLDA,
//          SPACE=(TRK,(20,10,5))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
   COPY INDD=xxxxIN,OUTDD=OUT
   SELECT MEMBER=(FUNIACEP,FUNIALA,FUNIALB,FUNIALLO)
   SELECT MEMBER=(FUNIAPLY,FUNIDDEF,FUNIRECV)
/*
```

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 where IBM.H30S240.F3
is 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 FUNIALA to allocate
the SMP/E data set for IMS Connect Extensions. 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 FUNIALB to initialize SMP/E zones for IMS Connect Extensions. 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 Connect Extensions as part of a CBPDO, use the RCVPDO job in the CBPDO
RIMLIB data set to receive the IMS Connect Extensions FMIDs, service, and HOLDDATA that are
included on the CBPDO package. For more information, see the documentation that is included in the
CBPDO.

Note: If you have previously installed the Functional Support Library Server FMID, H30S240, you do not
need to run the sample receive job, FUNIRECV.

You can also choose to edit and submit sample job FUNIRECV to perform the SMP/E RECEIVE for
Functional Support Library Server. 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.

You can also choose to edit and submit sample job CEXRECEV to perform the SMP/E RECEIVE for IMS
Connect Extensions. Consult the instructions in the sample job for more information.

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

6.1.8 Allocate SMP/E Target and Distribution Libraries

Note: If you have previously installed the Functional Support Library Server FMID, H30S240, you do not need to run the sample job, FUNIALLO.

Edit and submit sample job FUNIALLO to allocate the SMP/E target and distribution libraries for Functional Support Library Server. Consult the instructions in the sample jobs for more information.

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

Edit and submit sample job CEXALLOC to allocate the SMP/E target and distribution libraries for IMS Connect Extensions. 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

Note: If you have previously installed the Functional Support Library Server FMID, H30S240, you do not need to run the sample job, FUNIDDEF.

Edit and submit sample job FUNIDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Functional Support Library Server. Consult the instructions in the sample jobs for more information.

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

Edit and submit sample job CEXDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IMS Connect Extensions. 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

Ensure that you have the latest HOLDDATA before running the APPLY jobs for IMS Connect Extensions.

The latest HOLDDATA is available through several different portals, including http://service.software.ibm.com/holdata/390holddata.html. The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

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

to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

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

Here are sample APPLY commands:

1. 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.

2. 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.

Perform the SMP/E APPLY processing for IMS Connect Extensions using the following steps:

1. If you have **not** previously installed the Functional Support Library Server FMID, H30S240 then edit and submit sample job FUNIAPLY to perform an SMP/E APPLY CHECK for Functional Support Library Server. Consult the instructions in the sample job for more information.

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

   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: You will receive a return code of 0 if this job runs correctly.

2. Edit and submit sample job CEXAPPLY to perform an SMP/E APPLY CHECK for IMS Connect Extensions. Consult the instructions in the sample job for more information.

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

   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: You will receive a return code of 0 if this job runs correctly.

6.1.11 Perform SMP/E ACCEPT

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.

Perform the SMP/E ACCEPT processing for IMS Connect Extensions using the following steps:

1. If you have **not** previously installed the Functional Support Library Server FMID, H30S240 then edit and submit sample job FUNIACEP to perform an SMP/E ACCEPT CHECK for Functional Support Library Server. Consult the instructions in the sample job for more information.

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

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: You will receive a return code of 0 if this job runs correctly.

2. Edit and submit sample job CEXACCEP to perform an SMP/E ACCEPT CHECK for IMS Connect Extensions. Consult the instructions in the sample job for more information.

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

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: You will receive a return code of 0 if this job runs correctly.

Note: 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.

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 Connect Extensions, 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.

- 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.

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

6.1.14 Activating IMS Connect Extensions

6.2 Product Customization

The publication *IBM IMS Connect Extensions for z/OS User Guide* (SC19-4364) contains the necessary information to customize and use IMS Connect Extensions.

Refer to the *IBM IMS Connect Extensions for z/OS User 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 for z/OS. 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 www.ibm.com/software/htp/cics/ibmexplforzos/downloads.html.

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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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