IBM

Program Directory for

IBM IMS Database Reorganization Expert for z/OS

V04.01.00

Program Number 5655-S35

FMID H25N410

for Use with
z/OS

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GI10-8756-00

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 23.

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 Database Reorganization Expert for z/OS. This publication refers to IBM IMS Database Reorganization Expert for z/OS as IMS DB Reorg Expert.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic and optional program materials and documentation for IMS DB Reorg Expert.

- 3.0, "Program Support" on page 6 describes the IBM support available for IMS DB Reorg Expert.

- 4.0, "Program and Service Level Information" on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into IMS DB Reorg Expert.

- 5.0, "Installation Requirements and Considerations" on page 9 identifies the resources and considerations that are required for installing and using IMS DB Reorg Expert.

- 6.0, "Installation Instructions" on page 16 provides detailed installation instructions for IMS DB Reorg Expert. It also describes the procedures for activating the functions of IMS DB Reorg Expert, or refers to appropriate publications.

Before installing IMS DB Reorg Expert, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this Program Directory ; then keep them for future reference. Section 3.2, "Preventive Service Planning" on page 6 tells you how to find any updates to the information and procedures in this Program Directory.

IMS DB Reorg Expert 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 that is provided with your order. All service and HOLDDATA for IMS DB Reorg Expert are included on the CBPDO tape.

Do not use this program directory if you install IMS DB Reorg Expert with a SystemPac or ServerPac. When you use these offerings, use the jobs and documentation supplied with the offering. This program directory can point you to specific sections of it as required.

1.1 IMS DB Reorg Expert Description

IMS Database (DB) Reorganization Expert for z/OS, V4.1 (5655-S35) delivers database reorganization infrastructure for IMS full-function databases. It includes all the features and function of IMS Parallel Reorganization for z/OS, V3.2 and the following new features:

- Definition and configuration of reorganization policy on a database
- Policy-based detection and notification of database exceptions
- Policy-based conditional reorganization of a database

- Exception tracking on databases

These new features of IMS DB Reorganization Expert for z/OS respond to the following questions from IMS database administrators (DBAs) regarding database space management:

Policy definition and configuration
- How should the space of this database be managed?
- Which database statistics can or should I observe?

Conditional reorganization
- Is the database state so critical that immediate action is required?
- Why was the database reorganized?
- How effective was the reorganization at removing severe exceptions?

Exception detection and notification
- What exceptional state is observed for the database?
- Is there warning of the database state before it becomes severe or critical?

Process tracking
- When was this database reorganized last time?
- Were the past database reorganizations effective?
- Is the policy configured for the database effective?

With IMS DB Reorganization Expert for z/OS, DBAs can now have central control of policies on conditions for exception detection and reorganization of IMS full-function databases. The ISPF-based Policy Dialog helps DBAs create, customize, and manage policies. The exception notification and conditional reorganization is provided by the main utility of IMS DB Reorganization Expert for z/OS, Smart Reorg utility. This helps save time and resources for database exception detection and reorganization.

The centralized IMS Tools Knowledge Base report repository allows for the tracking of database exceptions and stores database reorganization results. This history of diagnostic reports can be analyzed to provide more accurate information for future analysis, problem-solving, and research. All information including policy definitions, collected database statistics, and database diagnosis reports are stored in repositories that are managed by the IMS Tools Knowledge Base server.

1.2 IMS DB Reorg Expert FMID

IMS DB Reorg Expert consists of the following FMID:

H25N410

2.0 Program Materials

An IBM program is identified by a program number and feature numbers. The program number for IMS DB Reorg Expert is 5655-S35 and the feature numbers are 5802 and 5812.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

The program announcement material describes the features supported by IMS DB Reorg Expert. 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 magnetic tape 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 16 for more information about how to install the program.

You can find information about the physical tape for the basic machine-readable materials for IMS DB Reorg Expert in the *CBPDO Memo To Users Extension*.

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

Notes:

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

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

Figure 1. Program File Content for IMS DB Reorg Expert				
Name	**ORG**	**RECFM**	**LRECL**	**BLK SIZE**
SMPMCS	SEQ	FB	80	6400
IBM.H25N410.F1	PDS	FB	80	8800
IBM.H25N410.F2	PDS	FB	80	8800
IBM.H25N410.F3	PDS	FB	80	8800
IBM.H25N410.F4	PDS	U	0	6144
IBM.H25N410.F5	PDS	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for IMS DB Reorg Expert.

2.3 Program Publications

The following sections identify the basic and optional publications for IMS DB Reorg Expert.

2.3.1 Basic Program Publications

Figure 2 identifies the basic unlicensed program publications for IMS DB Reorg Expert. One copy of each of these publications is included when you order the basic materials for IMS DB Reorg Expert. For additional copies, contact your IBM representative.

Figure 2. Basic Material: Unlicensed Publications	
Publication Title	**Form Number**
IBM IMS Database Reorganization Expert for z/OS License Information	GC19-1136

Figure 3 identifies the basic unlicensed or licensed publications that are not available in hardcopy format, but are available through the internet or other media for IMS DB Reorg Expert.

Figure 3. Basic Material: Other Unlicensed or Licensed Publications		
Publication Title	**Form Number**	**How Available**
IBM IMS Database Reorganization Expert for z/OS User's Guide	SC19-1137	http://www.ibm.com/software/ data/db2imstools/library.html

2.3.2 Optional Program Publications

No optional publications are provided for IMS DB Reorg Expert.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for IMS DB Reorg Expert.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 4 on page 5 during the installation of IMS DB Reorg Expert. To order copies, contact your IBM representative or visit the IBM Publications Center at http://www.ibm.com/shop/publications/order.

Figure 4. Publications Useful During Installation	
Publication Title	**Form Number**
IBM SMP/E for z/OS User's Guide	SA22-7773
IBM SMP/E for z/OS Commands	SA22-7771
IBM SMP/E for z/OS Reference	SA22-7772
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA22-7770

3.0 Program Support

This section describes the IBM support available for IMS DB Reorg Expert.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IMS DB Reorg Expert, make sure that you have reviewed the current Preventive Service Planning (PSP) information. The PSP Buckets maintain current lists (which have been identified since the package was created) of any recommended or required service for the installation of this package. This service includes software PSP information that contains HIPER and required PTFs against the base release.

If you obtained IMS DB Reorg Expert as part of a CBPDO, HOLDDATA is included.

If the CBPDO for IMS DB Reorg Expert is older than two weeks old by the time you install the product materials, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the latest PSP Bucket information. You can also obtain the latest PSP Bucket information by going to the following Web site:
 .br https://techsupport.services.ibm.com/server/390.psp390

For program support, access the Software Support Web site at http://www.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 DB Reorg Expert are shown as follows:

Figure 5. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
5655S35	H25N410	IMS Database Reorganization Expert

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 7 identifies the component IDs (COMPID) for IMS DB Reorg Expert.

Figure 6. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
H25N410	5655F7400	IMS DB Reorg Expert	410

4.0 Program and Service Level Information

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

- FMID H25N320 (IMS Parallel Reorganiztion)

PK31984	PK54067	PK73016
PK33131	PK57505	PK74303
PK33846	PK58598	PK78307
PK38598	PK59511	PK84782
PK43275	PK60286	PK95650
PK45143	PK66221	PK98197
PK48424	PK69458	PK98464
PK51713		

4.2 Service Level Information

No PTFs against this release of IMS DB Reorg Expert have been incorporated into the product tape.

It is highly recommended that you frequently check the IMS DB Reorg Expert PSP Bucket for HIPER and SPECIAL Attention PTFs against all FMIDs that you must install.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating IMS DB Reorg Expert. The following terminology is used:

- *Driving system*: the system used to install the program; where SMP/E executes.

  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 udpates, 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 access these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system that is required to install IMS DB Reorg Expert.

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 this product's shipment?**
Any **one** of the following:				
5694-A01	z/OS	V01.09.00	N/A	No
5655-G44	IBM SMP/E for z/OS	V03.04.00	N/A	No

Note: Installation may 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 that is required to install and use IMS DB Reorg Expert.

IMS DB Reorg Expert 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 by and *must* be present on the system or products that are not required by 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. These products are specified as PREs or REQs.

Figure 8. Target System Mandatory Installation Requisites				
Program Number	**Product Name**	**Minimum VRM**	**Minimum Service Level will satisfy these APARs**	**Included in this product's shipment?**
5655-V93	IBM IMS Tools Base for z/OS	V01.01.00	N/A	No

Note: Installation may 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.

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. These products are specified as IF REQs.

IMS DB Reorg Expert has no conditional installation requisites.

5.2.2.2 Operational Requisites:

Operational requisites are products that are required by and *must* be present on the system or products that are not required by 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. These products are specified as PREs or REQs.

Figure 9. Target System Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following:	
5655-J38	IMS V09.01.00
5635-A01	IMS V10.01.00
5635-A02	IMS V11.01.00
Any **one** of the following:	
5655-E06	IBM IMS High Performance Unload for z/OS V01.02.00
5655-S77	IBM IMS Database Solution Pack for z/OS V01.01.00
Any **one** of the following:	
5655-M26	IBM IMS High Performance Load for z/OS V02.01.00
5655-S77	IBM IMS Database Solution Pack for z/OS V01.01.00

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. These products are specified as IF REQs.

Program Number	Product Name and Minimum VRM/Service Level	Function
5655-N45	IMS High Performance Image Copy for /OS V04.01.00 or later	is required when requested for image copies
5655-U09	IMS High Performance Pointer Checker for z/OS V03.01.00	is required when requested for hash check of image copies
5655-M27	IMS High Performance Prefix Resolution for /OS V03.01.00	is required when the DB has internal logical relationships
5655-U08	IMS Library Integrity Utilities for z/OS V02.01.00	for DBD-decoding
Any **one** of the following:		
5655-E24	IMS Index Builder for z/OS V02.03.00	is required when requested for rebuilding secondary indexes.
5655-R01	IMS Index Builder for z/OS V03.01.00	is required when requested for rebuilding secondary indexes.

Figure 10. Target System 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 DB Reorg Expert 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 DB Reorg Expert has no negative requisites.

5.2.3 DASD Storage Requirements

IMS DB Reorg Expert libraries can reside on all supported DASD types.

Figure 11 lists the total space that is required for each type of library.

Figure 11. Total DASD Space Required by IMS DB Reorg Expert	
Library Type	**Total Space Required in 3390 Trks**
Target	440 tracks
Distribution	440 tracks

Notes:

1. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization. For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from the performance and DASD utilization perspective.

2. Abbreviations used for data set types are shown as follows.

   U   Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.

   S   Shared data set, allocated by this product and used by this product and other products. To determine the correct storage needed for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

   E   Existing shared data set, used by this product and other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

   If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

   For more information about the names and sizes of the required data sets, see 6.1.7, "Allocate SMP/E Target and Distribution Libraries" on page 19.

3. Abbreviations used for the file system path type are as follows.

   N   New path, created by this product.
   X   Path created by this product, but may already exist from a previous release.
   P   Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

   - The default name of the data set may be changed.
   - The default block size of the data set may be changed.
   - The data set may be merged with another data set that has equivalent characteristics.
   - The data set may 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.
- These data sets can be in the LNKLST.
- These data sets are required to be APF-authorized.

The following figures describe the target and distribution libraries and file system paths required to install IMS DB Reorg Expert. The storage requirements of IMS DB Reorg Expert must be added to the storage required by other programs having data in the same library or path.

Note: The data in these tables should be used when determining 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 12. Storage Requirements for IMS DB Reorg Expert Target Libraries								
Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SHPSBASE	SAMPLE	Any	S	PDS	FB	80	30	35
SHPSJCL0	SAMPLE	Any	S	PDS	FB	80	40	20
SHPSMAC0	Macro	Any	S	PDS	FB	80	70	60
SHPSLMD0	LMOD	Any	S	PDS	U	0	230	200
SHPSSAMP	SAMPLE	Any	S	PDS	FB	80	70	60

Figure 13. Storage Requirements for IMS DB Reorg Expert Distribution Libraries						
Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AHPSJCL0	S	PDS	FB	80	70	60
AHPSMAC0	S	PDS	FB	80	70	60
AHPSMOD0	S	PDS	U	0	230	200
AHPSSAMP	S	PDS	FB	80	70	60

5.3 FMIDs Deleted

Installing IMS DB Reorg Expert 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 DB Reorg Expert 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, see the SMP/E manuals for instructions.

5.4 Special Considerations

- Ensure sufficient space and directory blocks are available to support the requirements listed in the DASD Space Required table.
- The PSP Bucket will have the most current information and must be reviewed before installation.

IMS Tools Base for z/OS - FMID HAHN110 and its predecessor FMIDs:

- IMS Tools Base for z/OS, V1.1 (program number 5655-V93), FMID HAHN110, is required by multiple IMS Tools products including IMS DB Reorg Expert.
- It is strongly recommended that all the IMS tools that use IMS Tools Base for z/OS (FMID HAHN110) be installed into the same SMP/E target and distribution zones to avoid maintaining multiple instances of the IMS Tools Base for z/OS FMID.
  If you use different SMP/E target and distribution zones, you will have to install and maintain multiple instances of the same FMID, which will increase your maintenance and DASD requirements.
- FMID HAHN110 is a merger of multiple FMIDs. It DELETEs and SUPERSEDEs the following, previously released, FMIDs:
  - Common Code IMS Tools Online System Interface, FMID H2B7110 and H2B7120
  - Common Code IMS Tools Generic Exits, FMID H32A110, H32A120, and H32A130
  - IMS Hardware Data Compression Extended, FMID H08J110, H08J120, H22D210, and H22D220
  - IMS Tools Knowledge Base, FMID HABW110
- Should you receive FMID H2B7110, H2B7120, H32A110, H32A120, or H32A130 with another IMS tool and plan to install any of these FMIDs into the same distribution and target zones where you would nominally have installed FMID HAHN110, do not install any of the superseded FMIDs into this environment. Install IMS Tools Base for z/OS instead.
- For data set directory blocks and space requirements of the various IMS tools and Solution Packs, refer to distribution and target library requirements section specified in the particular program directory.
- For migration and customization information, refer to IMS Tools Base for z/OS: IMS Common Services User's Guide, SC19-2894 at URL:
  http://www.ibm.com/software/data/db2imstools/library.html

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 DB Reorg Expert.

Please note the following:

- If you want to install IMS DB Reorg Expert 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 DB Reorg Expert

6.1.1 SMP/E Considerations for Installing IMS DB Reorg Expert

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of IMS DB Reorg Expert.

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	(200,200,500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install IMS DB Reorg Expert:

Figure 15. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
HPSCCSIA	SMP/E	Sample job to allocate new SMP/E data sets **(Optional)**	IBM.H25N410.F2
HPSCCSID	SMP/E	Sample job to define SMP/E zones and DDDEFs **(Optional)**	IBM.H25N410.F2
HPSCRECV	RECEIVE	Sample RECEIVE job	IBM.H25N410.F2
HPSCALLC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.H25N410.F2
HPSCDDEF	DDDEF	Sample job to define SMP/E DDDEFs libraries	IBM.H25N410.F2
HPSCAPPL	APPLY	Sample APPLY job	IBM.H25N410.F2
HPSCACCP	ACCEPT	Sample ACCEPT job	IBM.H25N410.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 15 on page 16 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.H25N410.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.H25N410.F2,UNIT=tunit,
//* VOL=SER=25N410,LABEL=(3,SL),
//* DISP=(OLD,KEEP)
//***********************************************************
//* Make the //FILEIN DD statement below active for          *
//* downloaded DASD files.                                   *
//***********************************************************
//*FILEIN DD DSN=IBM.H25N410.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
/*
```

In the sample above, update the statements as noted below:

> If using TAPEIN:
>> **tunit** is the unit address where the product tape is mounted
>>
>> **volser** is the volume serial matching the product tape
>>
>> **x** is the tape file number where the data set name is on the tape
>>
>> Refer to the documentation provided by CBPDO to see where IBM.H25N410.F2 is on the tape.
>
> If using 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 will be stored
>>
>> **dasdvol** is the volume serial of the DASD device where the output data set will reside
>
> SYSIN
>> **xxxxIN** is either TAPEIN or FILEIN depending on your input DD statement.

6.1.4 Allocate SMP/E data sets (Optional)

If you are using an existing CSI, do not execute this job.

If you are allocating new SMP/E data sets for this install, edit, and submit sample job HPSCCSIA to allocate the SMP/E data set for IMS DB Reorg Expert. 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.

6.1.5 Initialize SMP/E data sets (Optional)

Edit and submit sample job HPSCCSID to initialize SMP/E zones for IMS DB Reorg Expert. 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 Perform SMP/E RECEIVE

If you have obtained IMS DB Reorg Expert as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IMS DB Reorg Expert FMIDs, service, and HOLDDATA that are included on the CBPDO tape. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit sample job HPSCRECV to perform the SMP/E RECEIVE for IMS DB Reorg Expert. 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 Allocate SMP/E Target and Distribution Libraries

All data sets used by IMS DB Reorg Expert are allocated by other products, so no new allocations are required.

Edit and submit sample job HPSCALLC to allocate the SMP/E target and distribution libraries for JCL, module, and sample of IMS DB Reorg Expert. 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 Create DDDEF Entries

All DDDEFs used by IMS DB Reorg Expert are created by other products, so no new DDDEFs are required.

Edit and submit sample job HPSCDDEF to create DDDEF entries for the SMP/E target and distribution libraries for JCL, module, and SAMPLE of IMS DB Reorg Expert. 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 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job HPSCAPPL to perform an SMP/E APPLY CHECK for IMS DB Reorg Expert. Consult the instructions in the sample job for more information.

    Perform an SMP/E APPLY CHECK for IMS DB Reorg Expert.

    HOLDDATA introduces ERROR HOLDs against FMIDs for HIPER APARs. Before the installation, ensure that you have the latest HOLDDATA, which is available through several different portals, including http://service.software.ibm.com/holdata/390holddata.html. Install the FMIDs regardless of the status of unresolved HIPERs. However, don't deploy the software until the unresolved HIPERs are analyzed to determine applicability.

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. This is because 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 two methods to install FMIDs when ++HOLDs for HIPERs exist for the FMIDs that you install:

a. To ensure that all recommended and critical service is installed with the FMIDs, if you are using SMP/E 3.5 or higher and have received the latest HOLDDATA, add the FIXCAT operand to the APPLY command as shown below. If you are using a prior release of SMP/E, add the SOURCEID(HIPER,RSU*) operand to the APPLY command.

```
If using SMP/E V3.5 or higher:
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
If using SMP/E V3.4 or prior:
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(HIPER,RSU*)
GROUPEXTEND .
```

Some HIPER APARs might not have PTFs available yet. You have to analyze the symptom flags to determine if you want to bypass the specific ERROR HOLDs and continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixes 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 the HIPERs, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. In this way, you can install FMIDs even though HIPER ERROR HOLDs against them still exist. Only the HIPER ERROR HOLDs are bypassed. After the FMIDs are installed, run the SMP/E REPORT ERRSYSMODS command to identify missing HIPER maintenance.

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
  ..any other parameters documented in the program directory
```

This method is the quicker of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs. If you are running SMP/E V3.5 or higher and have received the latest HOLDDATA, you can also choose to run REPORT MISSINGFIX for Fix Category IBM.ProductInstall.RequiredService to investigate missing recommended service.

If you bypass HOLDs during the installation of the FMIDs because PTFs are not yet available, you can make yourself notified when the 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.

6.1.10 Execute Installation Verification Program for IMS DB Reorg Expert

Edit and submit following member in the **SHPSJCL0** library to run the IVP for IMS DB Reorg Expert Consult the instructions in the job for more information.

JOB-NAME	Description
Figure 16. Installation Verification Test Jobs	
HPSCIVPA	Preparation job to allocate all IVP data sets and load IVP data
HPSCIVPP	IVP job for database reorganization using by IMS DB Reorg Expert
HPSCIVPD	Clean up job to delete all IVP data sets

6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job HPSCACCP to perform an SMP/E ACCEPT CHECK for IMS DB Reorg Expert. Consult the instructions in the sample job for more information.

Perform an SMP/E ACCEPT CHECK for IMS DB Reorg Expert.

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. This is because 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 manuals.

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-edits or binds 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 DB Reorg Expert, 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.

6.2 Activating IMS DB Reorg Expert

For customization and use of the various components of IMS DB Reorg Expert refer to the following publications:

- IMS Database Reorganization Expert for z/OS User's Guide, SC19-1137
- IMS High Performance Unload for z/OS User's Guide, SC27-0936
- IMS High Performance Load for z/OS User's Guide, SC18-9222
- IMS Tools Base for z/OS: IMS Common Services User's Guide, SC19-2894
- IMS Tools Base for z/OS: IMS Tools Knowledge Base User's Guide, SC19-2895

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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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Program Directory for IBM IMS Database Reorganization Expert for z/OS, February 2010

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│   very                          very        not
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│     1       2       3       4        5            N
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```

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of Program Directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of Program Directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of getting the system into production after installation	1	2	3	4	5	N

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___   CustomPac
___   ServerPac
___   Independent
___   Other

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___   No

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__   No

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