



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

V02.02.00

Program Number 5655-DSP

FMIDs HAHP220 and HHRF110

for Use with
z/OS

Document Date: February 2021

GI10-8942-06

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 40.

A form for reader's comments appears at the back of this publication. When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© **Copyright International Business Machines Corporation 1972, 2021.**

Note to U.S. Government Users — Documentation related to restricted rights — Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with IBM Corp.

Contents

1.0 Introduction	1
1.1 IMS Database Solution Pack Description	1
1.2 IMS Database Solution Pack FMIDs	2
2.0 Program Materials	3
2.1 Basic Machine-Readable Material	3
2.2 Optional Machine-Readable Material	3
2.3 Program Publications	4
2.4 Program Source Materials	5
2.5 Publications Useful During Installation	5
3.0 Program Support	7
3.1 Program Services	7
3.2 Preventive Service Planning	7
3.3 Statement of Support Procedures	8
4.0 Program and Service Level Information	10
4.1 Program Level Information	10
4.2 Service Level Information	16
5.0 Installation Requirements and Considerations	18
5.1 Driving System Requirements	18
5.1.1 Machine Requirements	18
5.1.2 Programming Requirements	18
5.2 Target System Requirements	19
5.2.1 Machine Requirements	19
5.2.2 Programming Requirements	19
5.2.2.1 Installation Requisites	19
5.2.2.2 Operational Requisites	20
5.2.2.3 Toleration/Coexistence Requisites	22
5.2.2.4 Incompatibility (Negative) Requisites	22
5.2.3 DASD Storage Requirements	23
5.3 FMIDs Deleted	25
5.4 Special Considerations	26
6.0 Installation Instructions	27
6.1 Installing IMS Database Solution Pack	27
6.1.1 SMP/E Considerations for Installing IMS Database Solution Pack	27
6.1.2 SMP/E Options Subentry Values	27
6.1.3 SMP/E CALLLIBS Processing	28
6.1.4 Sample Jobs	28
6.1.5 Allocate SMP/E CSI (Optional)	32

6.1.6 Initialize CSI zones (Optional)	32
6.1.7 Perform SMP/E RECEIVE	32
6.1.8 Perform SMP/E RECEIVE for IMS Online Reorganization Facility (HHRF110)	32
6.1.9 Allocate SMP/E Target and Distribution Libraries	33
6.1.10 Allocate SMP/E Target and Distribution Libraries for IMS Online Reorganization Facility (HHRF110)	33
6.1.11 Create DDDEF Entries	33
6.1.12 Create DDDEF Entries for IMS Online Reorganization Facility (HHRF110)	33
6.1.13 Perform SMP/E APPLY	33
6.1.14 Perform SMP/E APPLY for IMS Online Reorganization Facility (HHRF110)	35
6.1.15 Execute Installation Verification Program for IMS Database Solution Pack	36
6.1.16 Perform SMP/E ACCEPT	37
6.1.17 Perform SMP/E ACCEPT for IMS Online Reorganization Facility (HHRF110)	38
6.1.18 Run REPORT CROSSZONE	38
6.2 Activating IMS Database Solution Pack	39
7.0 Notices	40
7.1 Trademarks	41
Reader's Comments	42

Figures

1. Basic Material: Unlicensed	4
2. Publications Useful During Installation	6
3. PSP Upgrade and Subset ID	7
4. Component IDs	8
5. Driving System Software Requirements	19
6. Target System Mandatory Operational Requisites	20
7. Target System Conditional Operational Requisites	21
8. Total DASD Space Required by IMS Database Solution Pack	23
9. Storage Requirements for IMS Database Solution Pack Target Libraries	24
10. Storage Requirements for IMS Database Solution Pack Distribution Libraries	25
11. SMP/E Options Subentry Values	27
12. Sample Installation Jobs	28

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 Solution Pack for z/OS. This publication refers to IBM IMS Database Solution Pack for z/OS as IMS Database Solution Pack.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for IMS Database Solution Pack.
- 3.0, “Program Support” on page 7 describes the IBM support available for IMS Database Solution Pack.
- 4.0, “Program and Service Level Information” on page 10 lists the APARs (program level) and PTFs (service level) that have been incorporated into IMS Database Solution Pack.
- 5.0, “Installation Requirements and Considerations” on page 18 identifies the resources and considerations that are required for installing and using IMS Database Solution Pack.
- 6.0, “Installation Instructions” on page 27 provides detailed installation instructions for IMS Database Solution Pack. It also describes the procedures for activating the functions of IMS Database Solution Pack, or refers to appropriate publications.

Before installing IMS Database Solution Pack, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this Program Directory; then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 7 tells you how to find any updates to the information and procedures in this Program Directory.

IMS Database Solution Pack is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for IMS Database Solution Pack are included on the CBPDO tape.

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

1.1 IMS Database Solution Pack Description

IBM IMS Database Solution Pack for z/OS, V2.2 (5655-DSP) combines several sophisticated IMS database products into a single solution. With V2.2 the solution now includes IMS Administration Tool for z/OS, V1.1. IMS Database Solution Pack continues to provide both online and offline IMS database reorganization, support for IMS library maintenance, advanced capabilities to manage IMS HALDB databases, and the ability to check and repair database integrity and pointer errors. This solution also

provides support to resolve databases with logical relationships following a reorganization. IMS Database Solution Pack captures operational analytics during all phases of IMS database administration. This data is used extensively to allow IMS DBAs to proactively manage their IMS environment.

IMS Database Solution Pack for z/OS, V2.2: Provides the following enhancements to the online reorganization capability, further extending the product's capabilities and usability:

- Support for conditional reorganization of multiple HALDB partitions. Analyze multiple HALDB partitions and reorganize only the partitions that were identified as in need of reorganization.
- Option to change the DBD during HALDB reorganization. During the reorganization, the database is unloaded with the original DBD and then reloaded with the new DBD.
- Generation of image copies in IMS HP Image Copy's Fast Recovery image copy format to enable fast recovery of databases.
- Ability to allow applications that use secondary processing sequence (PROCSEQ parameter coded in the PCB statement) to update the HALDB during reorganization.

For more information on the features available in IMS Database Solution Pack for z/OS, see the IMS Database Solution Pack for z/OS website:

<https://www.ibm.com/us-en/marketplace/ims-database-solution-pack>

1.2 IMS Database Solution Pack FMIDs

IMS Database Solution Pack consists of the following FMIDs:

HAHP220 IMS DB Solution Pack
H25N410 IMS DB Reorg Expert
H11N120 IMS HP Unload
H11M210 IMS HP Load
H11P310 IMS HP Prefix Resolution
H22O310 IMS Index Builder
H1J0420 IMS HP Image Copy
H27P220 IMS Library Integrity Utilities
HPC2310 IMS HP Pointer Checker
H22K310 DB Repair
HHRF110 IMS Online Reorganization Facility
HIHC110 IMS HALDB Toolkit
HALC110 IMS Administration Tool

2.0 Program Materials

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

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.

The program announcement material describes the features supported by IMS Database Solution Pack. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 27 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 Database Solution Pack in the *CBPDO Memo To Users Extension*.

There may be program file content available with for other components in this package. Refer to the following Program Directories supplied with the product.

- GI10-8756 IMS DB Reorg Expert
- GI10-8270 IMS HP Unload
- GI10-8589 IMS HP Load
- GI10-8592 IMS HP Prefix Resolution
- GI10-8571 IMS Index Builder
- GI10-8671 IMS HP Image Copy
- GI10-8798 IMS Library Integrity Utilities
- GI10-8783 IMS HP Pointer Checker
- GI13-5920 IMS HALDB Toolkit
- GI13-4331 IMS Administration Tool

2.2 Optional Machine-Readable Material

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

2.3 Program Publications

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

Figure 1 on page 4 identifies the basic unlicensed publications for IMS Database Solution Pack. Those that are in softcopy format Publications can be obtained from the IBM Publications Center website at <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>

<i>Figure 1 (Page 1 of 2). Basic Material: Unlicensed</i>		
Publication Title	Form Number	Media Format
IBM IMS Database Solution Pack for z/OS, License Information	GC19-4008	http://www.ibm.com/software/sla/slabd.nsf
IBM IMS Database Solution Pack for z/OS Overview and Customization	SC27-9037	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Solution Packs Database Sensor User's Guide	SC19-3283	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Solution Packs IMS Database Space Tuning Guide	SC19-3395	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Database Solution Pack for z/OS: IMS High Availability Large Database Toolkit User's Guide	SC27-9038	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Database Solution Pack for z/OS: IMS Online Reorganization Facility User's Guide	SC27-9039	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Database Reorganization Expert for z/OS User's Guide	SC19-1137	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Unload for z/OS, User's Guide	SC27-0936	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Load for z/OS, User's Guide	SC18-9222	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Prefix Resolution for z/OS User's Guide	SC18-9230	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Index Builder for z/OS for z/OS, User's Guide	SC18-9101	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Image Copy for z/OS User's Guide	SC19-2756	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Library Integrity Utilities for z/OS User's Guide	SC19-3979	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Pointer Checker for z/OS User's Guide	SC19-2401	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Database Repair Facility for IMS Solution Packs User's Guide	SC19-2916	http://www.ibm.com/support/docview.wss?uid=swg27020942

Figure 1 (Page 2 of 2). Basic Material: Unlicensed

Publication Title	Form Number	Media Format
IBM IMS Administration Tool for z/OS User's Guide and Reference	SC27-9011	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Unload for z/OS Program Directory (FMID H1IN120)	G110-8270	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Load for z/OS Program Directory (FMID H1IM210)	G110-8589	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Pointer Checker for z/OS Program Directory (FMIDs HPC2310 and H22K310)	G110-8783	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Library Integrity Utilities for z/OS Program Directory (FMID H27P220)	G110-8798	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Prefix Resolution for z/OS Program Directory (FMID H1IP310)	G110-8592	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Index Builder for z/OS Program Directory (FMID H22O310)	G110-8571	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS High Performance Image Copy for z/OS Program Directory (FMID H1J0420)	G110-8671	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Database Reorganization Expert for z/OS Program Directory (FMID H25N410)	G110-8756	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM IMS Administration Tool for z/OS Program Directory (FMID HALC110)	G113-4331	http://www.ibm.com/support/docview.wss?uid=swg27020942
IMS High Availability Large Database Toolkit Program Directory (FMID HIHC110)	G113-5920	http://www.ibm.com/support/docview.wss?uid=swg27020942
IBM Tools Base for z/OS Program Directory (FMID HAHN160)	G110-8819	http://www.ibm.com/support/docview.wss?uid=swg27020942

No optional publications are provided for IMS Database Solution Pack.

2.4 Program Source Materials

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

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 2 during the installation of IMS Database Solution Pack. To order copies, contact your IBM representative or visit the IBM Publications Center at: <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>

Figure 2. Publications Useful During Installation

Publication Title	Form Number
<i>IBM SMP/E for z/OS User's Guide</i>	SA22-7773
<i>IBM SMP/E for z/OS Commands</i>	SA22-7771
<i>IBM SMP/E for z/OS Reference</i>	SA22-7772
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA22-7770

3.0 Program Support

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

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install IMS Database Solution Pack, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.ProductInstall-RequiredService fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.ProductInstall-RequiredService)** operand on the **APPLY CHECK command**. See 6.1.13, “Perform SMP/E APPLY” on page 33 for a sample APPLY command

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

If the CBPDO for IMS Database Solution Pack is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

<http://www14.software.ibm.com/webapp/set2/psearch/search?domain=psp>

You can also use S/390 SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at <http://www-01.ibm.com/software/support/>.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for IMS Database Solution Pack are included in Figure 3

Figure 3 (Page 1 of 2). PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5655DSP	HAHP220	IMS DB Solution Pack
5655S35	H25N410	IMS DB Reorg Expert
5655E06	H11N120	IMS HP Unload
5655M26	H11M210/0937	IMS HP Load

Figure 3 (Page 2 of 2). PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
5655M27	H11P310/0933	IMS HP Prefix Resolution
5655R01	H22O310/1129	IMS Index Builder
5655N45	H1J0420	IMS HP Image Copy
5655U08	H27P220	IMS Library Integrity Utilities
5655U09	HPC2310	IMS HP Pointer Checker
5655U09	H22K310	DB Repair
5655H97	HHRF110	IMS Online Reorg Fac
5655DBU	HIHC110	IMS HALDB Toolkit
5655CAT	HALC110	IMS Administration Tool

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 4 identifies the component IDs (COMPID) for IMS Database Solution Pack.

Figure 4 (Page 1 of 2). Component IDs

F MID	COMPID	Component Name	RETAIN Release
HAHP220	5655S7700	IMS DB Solution Pack	220
H25N410	5655F7400	IMS DB Reorg Expert	410
H1IN120	5655E0600	IMS HP Unload	120
H1IM210	5655E0700	IMS HP Load	210
H1IP310	5655I1500	IMS HP Prefix Resolution	310
H22O310	5655E2400	IMS Index Builder	310
H1J0420	5655K9600	IMS HP Image Copy	420
H27P220	5655I4200	IMS Library Integrity Utilities	220
HPC2310	5655E0900	IMS HP Pointer Checker	310
H22K310	5655E0300	DB Repair	310
HHRF110	5655H9701	IMS Online Reorganization Facitliy	110
HIHC110	5655DBU01	IMS HALDB Toolkit	110

Figure 4 (Page 2 of 2). Component IDs

FMID	COMPID	Component Name	RETAIN Release
HALC110	5655CAT00	IMS Administration Tool	110

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of IMS Database Solution Pack. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

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

- HAHP120 IMS Database Solution Pack

PM68014

- HAHP210 IMS Online Reorganization Facility of IMS Database Solution Pack.

Note: These fixes are included in FMID HHRF110.

PI06020	PI18441	PI19340
PI16840	PI19752	PI20420
PI19534	PI23627	PI24397
PI22850	PI26936	PI27631
PI26520	PI32829	PI35527
PI31646	PI41661	PI44687
PI36272	PI47920	PI48692
PI45741	PI51922	PI52475
PI51142	PI54834	PI55380
PI53079	PI55759	PI56667
PI55662	PI58319	PI58475
PI57152	PI59967	PI60331
PI59098	PI62374	PI62616
PI61334	PI63563	PI63786
PI62987	PI66278	PI66870
PI65361	PI70503	PI71107
PI69348	PI72943	PI74787
PI72441	PI75628	PI77430
PI74858	PI78842	PI79711
PI78330	PI81463	PI81965
PI81079	PI10156	PI82235
PI07834		

- HAHP210 IMS HALDB Toolkit of IMS Database Solution Pack

Note: These fixes are included in FMID HIHC110

PI21788	PI22247	PI23374
PI24710	PI25901	PI26112
PI27633	PI34479	PI38264
PI41773	PI46799	PI48101
PI50664	PI50758	PI53310
PI55673	PI56633	PI57970
PI63145	PI65359	

- FMID H25N320 IMS DB Reorg Expert

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

- FMID H1IN110 IMS HP Unload

PQ48541	PQ65900	PQ81449
PQ49085	PQ65972	PQ81675
PQ49420	PQ66181	PQ81884
PQ50674	PQ67004	PQ83387
PQ51595	PQ67296	PQ84900
PQ52195	PQ67388	PQ85305
PQ55504	PQ68481	PQ85786
PQ55674	PQ69199	PQ89724
PQ57581	PQ69413	PQ89995
PQ57804	PQ70569	PQ90043
PQ57815	PQ70680	PQ93668
PQ59838	PQ70768	PQ97692
PQ60530	PQ71688	PQ97906
PQ60945	PQ72433	PQ99842
PQ61589	PQ76387	PK01994
PQ62843	PQ77099	PK02399
PQ63210	PQ79143	PK04153
PQ63286	PQ79469	PK04546
PQ63445	PQ80191	PK04792

PK04911	PK13444	PK27570
PK05759	PK13800	PK28097
PK06057	PK14392	PK30539
PK07157	PK16234	PK32595
PK07881	PK17804	PK33118
PK07882	PK19058	PK33847
PK08779	PK19705	PK34469
PK08900	PK20862	PK35959
PK11209	PK21498	PK38688
PK11534	PK22535	PK47931
PK12918	PK22614	PK48499
PK13001	PK24577	PK49836
PK13441	PK24974	

- FMID H1IM110 IMS HP Load

PQ45256	PQ62856	PQ77101
PQ45743	PQ63287	PQ78094
PQ48018	PQ63628	PQ78371
PQ48740	PQ65831	PQ78826
PQ48976	PQ65838	PQ79416
PQ48993	PQ65901	PQ79624
PQ50280	PQ66809	PQ79792
PQ50283	PQ66866	PQ79982
PQ50284	PQ67346	PQ79990
PQ50675	PQ67440	PQ80198
PQ51000	PQ67957	PQ80248
PQ51495	PQ68239	PQ80569
PQ52914	PQ68587	PQ81063
PQ53316	PQ68785	PQ81883
PQ54734	PQ69009	PQ83248
PQ56648	PQ69473	PQ83995
PQ57582	PQ70526	PQ84118
PQ57944	PQ71316	PQ84268
PQ59833	PQ71828	PQ84901
PQ59841	PQ72723	PQ85616
PQ60716	PQ76334	PQ87695
PQ61147	PQ76494	PQ88727
PQ61148	PQ76672	PQ93663
PQ61448		

- FMID H1IP210 IMS HP Prefix Resolution

PQ65840
PQ82426

- FMID H22O230 IMS Index Builder

PQ66736	PQ80650	PQ99082
PQ68391	PQ80709	PQ99933
PQ68576	PQ82443	PK00052
PQ68578	PQ84251	PK00306
PQ68833	PQ85424	PK01018
PQ69295	PQ85516	PK01679
PQ69757	PQ85744	PK01903
PQ70150	PQ86098	PK02268
PQ70421	PQ86103	PK02968
PQ70737	PQ86256	PK07556
PQ71035	PQ86612	PK07569
PQ71418	PQ86822	PK08256
PQ71798	PQ87341	PK08310
PQ72294	PQ87491	PK08378
PQ72674	PQ87769	PK09651
PQ72834	PQ87880	PK09653
PQ73096	PQ88453	PK10153
PQ73570	PQ89118	PK10589
PQ73974	PQ89532	PK11329
PQ74061	PQ89696	PK11688
PQ75154	PQ89869	PK12755
PQ75273	PQ90074	PK13871
PQ75320	PQ90076	PK15198
PQ75460	PQ90767	PK16935
PQ76219	PQ91025	PK17414
PQ76224	PQ91157	PK18338
PQ76691	PQ91637	PK21544
PQ76859	PQ91694	PK23472
PQ76857	PQ91828	PK23611
PQ77680	PQ91986	PK24669
PQ77794	PQ93232	PK25874
PQ77944	PQ93439	PK26528
PQ78016	PQ94145	PK27239
PQ78795	PQ94416	PK29311
PQ79536	PQ94830	PK29622
PQ80038	PQ95727	PK30473
PQ80093	PQ98350	PK30688
PQ80216	PQ99037	PK31803
PQ80527	PQ99068	PK35505

PK36187	PK45097	PK55372
PK36340	PK48933	PK58860
PK36343	PK49320	PK60145
PK38318	PK49450	PK60460
PK39760	PK52953	PK63364
PK43506	PK54177	PK65117

- FMID H1J0410 IMS HP Image Copy

PK09541	PK23876	PK41535
PK09722	PK24693	PK41920
PK11605	PK25028	PK41921
PK12997	PK25484	PK41922
PK14099	PK26299	PK42644
PK14105	PK26896	PK43361
PK14295	PK27225	PK43716
PK14331	PK27395	PK45121
PK14382	PK28092	PK45371
PK14562	PK28108	PK45462
PK15050	PK29015	PK46921
PK15169	PK30631	PK46960
PK15594	PK31006	PK47222
PK15598	PK31299	PK48191
PK15843	PK32026	PK48318
PK16009	PK32028	PK49160
PK16156	PK33115	PK49914
PK16454	PK33608	PK50542
PK16726	PK34133	PK51003
PK16728	PK34198	PK53839
PK16733	PK35048	PK53858
PK17130	PK35110	PK55442
PK18068	PK35129	PK55693
PK18715	PK35954	PK57985
PK18978	PK36006	PK58094
PK19977	PK36213	PK58921
PK21070	PK36670	PK60299
PK21502	PK37644	PK61021
PK21666	PK37981	PK61486
PK22704	PK38377	PK61849
PK23109	PK39458	PK62163
PK23423	PK39461	PK62351
PK23701	PK39795	PK63113
PK23714	PK39968	PK63321
PK23784	PK41107	PK63957

PK66570	PK75559	PK85898
PK66575	PK75674	PK87250
PK66880	PK76238	PK87563
PK67873	PK78236	PK87615
PK68121	PK78239	PK91050
PK68158	PK79032	PK91965
PK68272	PK80381	PK94931
PK69500	PK80766	PK95360
PK70349	PK82370	PK96674
PK72893	PK82467	PK97330
PK73511	PK83503	PK97537
PK74296	PK84204	PK99132
		PK99259

- FMID H27P210 IMS Library Integrity Utilities

PK72952	PM22634	PM61228
PK74275	PM28084	PM64743
PK78067	PM30256	PM64916
PK78962	PM30910	PM67105
PK82286	PM35070	PM67816
PK84633	PM35071	PM68396
PK85040	PM37113	PM69050
PK86986	PM37150	PM69550
PK87420	PM41075	PM70576
PK89606	PM46494	PM71083
PK91313	PM46539	PM71502
PK92830	PM46613	PM72387
PK93253	PM47964	PM75259
PK94160	PM50776	PM76894
PK95252	PM52711	PM79750
PK99258	PM53105	PM80933
PM00241	PM53369	PM83105
PM02369	PM53932	PM83106
PM03227	PM55052	PM86805
PM10930	PM55827	PM88667
PM14955	PM56804	PM89597
PM17661	PM57519	PM89697
PM21355	PM60149	PM96421
PM21961		

- FMID HPC2220 IMS HP Pointer Checker

PK31298	PK49818	PK61095
PK33114	PK50142	PK61986
PK33317	PK50537	PK62562
PK33419	PK51287	PK62852
PK35073	PK51609	PK65496
PK37095	PK54545	PK66213
PK40389	PK55086	PK66679
PK44413	PK57593	PK66752
PK45122	PK57594	PK66792
PK46765	PK59085	PK67669
PK49230	PK59723	PK68211
		PK70055

- FMID H22K120 IMS DB Repair Facility

PQ97004	PK18051	PK36408
PQ98661	PK19302	PK37283
PQ99060	PK21206	PK39339
PK02623	PK23370	PK45314
PK04199	PK24689	PK48456
PK04557	PK26080	PK48804
PK05474	PK26092	PK48805
PK06865	PK32682	PK50357
PK13818	PK34745	PK53127

4.2 Service Level Information

PTFs containing APAR fixes against this release of IMS Database Solution Pack have been incorporated into this product package. For a list of included PTFs, examine the ++VER statement in the product's SMPMCS.

- IMS HP Load (FMID: H1IM210)

PTFs containing APAR fixes against this release of IMS HP Load have been incorporated into this product tape. For a list of included PTFs, examine the ++VER statement in the IMS HP Load's SMPMCS.

- IMS HP Prefix Resolution (FMID: H1IP310)

PTFs containing APAR fixes against this release of IMS HP Prefix Resolution have been incorporated into this product tape. For a list of included PTFs, examine the ++VER statement in the IMS HP Prefix Resolution's SMPMCS.

- IMS Index Builder (FMID: H22O310)

PTFs containing APAR fixes against this release of IMS Index Builder have been incorporated into this product tape. For a list of included PTFs, examine the ++VER statement in the IMS Index Builder's SMPMCS.

Frequently check the IMS Database Solution Pack PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the **FIXCAT(IBM.PRODUCTINSTALL-REQUIRESERVICE)** operand on your APPLY CHECK command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating IMS Database Solution Pack. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.
The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.
- *Target system*: the system on which the program is configured and run.
The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.
- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install IMS Database Solution Pack.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

Figure 5. Driving System Software Requirements

Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	z/OS	V02.03.00	N/A	No
and				
5655-G44	IBM SMP/E for z/OS	V03.05.00	N/A	No

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

IMS Database Solution Pack is installed into a file system, either HFS or zFS. Before installing IMS Database Solution Pack, you must ensure that the target system file system data sets are available for processing on the driving system. OMVS must be active on the driving system and the target system file system data sets must be mounted on the driving system.

If you plan to install IMS Database Solution Pack in a zFS file system, this requires that zFS be active on the driving system. Information on activating and using zFS can be found in z/OS Distributed File Service zSeries File System Administration, SC24-5989.

5.2 Target System Requirements

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

IMS Database Solution Pack installs in the DBS (P115) SREL.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Installation Requisites

Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REQs.

IMS Database Solution Pack has no mandatory installation requisites.

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

IMS Database Solution Pack has no conditional installation requisites.

5.2.2.2 Operational Requisites

Operational requisites are products that are required and *must* be present on the system or products that are not required but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions. These products are specified as PREs or REQs.

<i>Figure 6. Target System Mandatory Operational Requisites</i>	
Program Number	Product Name and Minimum VRM/Service Level
5655-V93	IBM Tools Base for z/OS V01.06.00 or higher
5655-DSP	IBM IMS Database Solution Pack for z/OS, IMS HP Unload, FMID H1IN120, is required by IMS DB Reorg Expert, FMID H25N410. Both FMIDs are included.
5655-DSP	IBM IMS Database Solution Pack for z/OS, IMS HP Load, FMID H1IM210, is required by IMS DB Reorg Expert, FMID H25N410. Both FMIDs are included.
5655-DSP	IBM IMS Database Solution Pack for z/OS, DB Repair, FMID H22K310, is required by IMS HP Pointer Checker, FMID HPC2310. Both FMIDs are included.
Any one of the following:	
5635-A05	IBM IMS V14.01.00
5655-DSE	IBM IMS Database Value Unit Edition, V14.01.00
5635-A06	IBM IMS V15.01.00
5655-DS5	IBM IMS Database Value Unit Edition, V15.01.00

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

Figure 7 (Page 1 of 2). Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5655-TAC	IBM Management Console for IMS and DB2 for z/OS	Function for graphical and simplified web access to DBDs and PSBs.
5655-DSP	IBM IMS Database Solution Pack, V02.02.00, - IMS HP Pointer Checker, FMID HPC2310 (with H22K310)	For HDPC Hash Pointer Check of IMS HP Image Copy, FMID H1J0420, FMID HPC2310, must be available.
5655-DSP	IBM IMS Database Solution Pack, V02.02.00, - IMS Library Integrity Utilities, FMID H27P220	For HDPC DBD Decode and DBD Mapping options of IMS HP Pointer Checker, FMID HPC2310, FMID H27P220 must be available. For various functions IMS Administration Tool, FMID HALC110, FMID H27P220 must be available.
5655-DSP	IBM IMS Database Solution Pack, V02.02.00, - IMS HP Prefix Resolution, FMID H1IP310, IMS Index Builder, FMID H22O310, IMS HP Image Copy, FMID H1J0420, IMS Library Integrity Utilities, FMID H27P220, IMS HP Pointer Checker, FMID HPC2310 (with H22K310)	For various IMS DB Reorg Expert, FMID H25N410, functions
5655-DSP	IBM IMS Database Solution Pack, V02.02.00, - IMS DB Reorg Expert, FMID H25N410	For Database Sensor option of IMS HP Image Copy, FMID H1J0420 and IMS HP Pointer Checker, HPC2310.
5655-W14	IBM IMS Fast Path Solution Pack for z/OS V01.03.00	For DEDB Hash Pointer Check for the IMS HP Image Copy, FMID H1J0420 Hash Check option of DEDB. For Database Sensor option for DEDB of IMS HP Image Copy, FMID H1J0420.
5698-FPP	IBM IMS Fast Path Solution Pack for z/OS V02.01.00	For DEDB Hash Pointer Check for the IMS HP Image Copy, FMID H1J0420 Hash Check option of DEDB. For Database Sensor option for DEDB of IMS HP Image Copy, FMID H1J0420.

Figure 7 (Page 2 of 2). Target System Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5650-ZOS	z/OS V02.03.00 includes - DFSORT or a functionally equivalent sort program	For the PSSR function of IMS HP Load, FMID H1IM210. For IMS Index Builder, FMID H22O310. ACBLIB Analyzer Utility and function Integrity Checker of IMS Library Integrity Utilities, FMID H27P220. For functions HD Pointer Checker, HD Tuning Aid, and Space Monitor of IMS HP Pointer Checker, FMID HPC2310.
5650-ZOS	z/OS V02.03.00 includes DFSMSdss or functionally equivalent program	For COPY and FCOPY of Advanced Image Copy services of IMS HP Image Copy, FMID H1J0420.
5650-ZOS	z/OS V02.03.00 - ISPF and GDDM	For the display of DB Historical Analyzer of IMS HP Pointer Checker, FMID HPC2310, charts on TSO terminals.
5650-ZOS	z/OS V02.03.00 -- ISPF	For IMS HALDB Toolkit, HIHC110, on TSO terminals and batch. For DB Repair, H22K310, on TSO terminal and batch. For IMS Administration Tool, FMID HALC110 on TSO terminal and batch.
5650-ZOS	z/OS V02.03.00 -- Language Environment	For IMS HP Load, FMID H1IM210, IMS HP Unload FMID H1IN120 using LE interface for an user routine written in either COBOL or PL/I.

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 Database Solution Pack has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites

Negative requisites identify products that must *not* be installed on the same system as this product.

IMS Database Solution Pack has no negative requisites.

5.2.3 DASD Storage Requirements

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

Figure 8 on page 23 lists the total space that is required for each type of library.

<i>Figure 8. Total DASD Space Required by IMS Database Solution Pack</i>		
Library Type	Total Space Required in 3390 Trks	File System Description
Target	3238	
Distribution	3268	
File System	150	/usr/lpp/ InstallationManagerRepository /H27P22

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 6.1.9, "Allocate SMP/E Target and Distribution Libraries" on page 33.

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 might 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 can be changed.
- The default block size of the data set can be changed.
- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

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

6. All target libraries that are listed and contain load modules have the following attributes:

- These data sets can be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLIST.
- Following data sets are required to be APF-authorized.
 - SHPSLMD0
 - SHRFLOAD
 - SIHCLOAD
 - SIIULMOD

The following figures describe the target and distribution libraries and file system paths required to install IMS Database Solution Pack. The storage requirements of IMS Database Solution Pack must be added to the storage required by other programs that have data in the same library or path.

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 9 (Page 1 of 2). Storage Requirements for IMS Database Solution Pack Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C O R D I N G	L E N G T H	No. of 3390 Trks	No. of DIR Blks
SHPSBASE	SAMPLE	Any	S	PDS	FB	80	5	3
SHPSJCL0	SAMPLE	Any	S	PDS	FB	80	45	50
SHPSLMD0	LMOD	Any	S	PDS	U	0	900	200

Figure 9 (Page 2 of 2). Storage Requirements for IMS Database Solution Pack Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SHPSSAMP	SAMPLE	Any	S	PDS	FB	80	45	50
SHRFBASE	SAMPLE	Any	U	PDS	FB	80	5	5
SHRFLOAD	LMOD	Any	S	PDS	U	0	525	150
SHRFMACS	Macro	Any	S	PDS	FB	80	17	17
SHRFSAMP	Sample	Any	S	PDS	FB	80	20	20

Figure 10. Storage Requirements for IMS Database Solution Pack Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AHPSBASE	S	PDS	FB	80	5	3
AHPSJCL0	S	PDS	FB	80	45	60
AHPSMOD0	S	PDS	U	0	900	200
AHPSSAMP	S	PDS	FB	80	45	60
AHRFBASE	U	PDS	FB	80	5	5
AHRFLOAD	S	PDS	U	0	550	150
AHRFMACS	S	PDS	FB	80	17	17
AHRFSAMP	S	PDS	FB	80	20	20

5.3 FMIDs Deleted

Installing IMS Database Solution Pack might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install IMS Database Solution Pack into separate SMP/E target and distribution zones.

Note: These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, use the SMP/E REJECT NOFMID DELETEDFMID command. See the SMP/E Commands book for details.

5.4 Special Considerations

IBM Installation Manager is a z/OS Unix System Services application. Before using IBM Installation Manager to perform product installation and maintenance, you should customize your z/OS system as described in the z/OS Unix System Services Planning manual (GA22-7800) for your version of z/OS, paying particular attention to Chapter 3, "Customizing z/OS Unix", and Chapter 4, "Establishing Unix Security."

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 Database Solution Pack.

Please note the following points:

- If you want to install IMS Database Solution Pack into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.
- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing IMS Database Solution Pack

6.1.1 SMP/E Considerations for Installing IMS Database Solution Pack

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

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 11. 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.

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

6.1.3 SMP/E CALLLIBS Processing

IMS HP Load, FMID: H1IM210 and IMS HP Unload, FMID: H1IN120 uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When IMS HP Load or IMS HP Unload is installed, ensure that DDDEFs exist for the following libraries:

- SDFSRESL
- CSSLIB
- SCEELKED

IMS HP Pointer Checker, FMID: HPC2310 uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When IMS HP Pointer Checker is installed, ensure that DDDEFs exist for the following libraries:

- SADMMOD
- SISLOAD
- SISPLPA

DB Repair, FMID: H22K310 uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When DB Repair is installed, ensure that DDDEFs exist for the following libraries:

- SISLOAD
- SISPLPA

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

6.1.4 Sample Jobs

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

<i>Figure 12 (Page 1 of 2). Sample Installation Jobs</i>			
Job Name	Job Type	Description	RELFILE
HPSALA	SMP/E	Sample job to allocate new SMP/E data sets (Optional)	IBM.HAHP220.F2
HPSALB	Sample	Sample job to define SMP/E zones and DDDEFs (Optional)	IBM.HAHP220.F2
HPSRECEV	RECEIVE	Sample RECEIVE job for HAHP220	IBM.HAHP220.F2
HPSALLOC	ALLOCATE	Sample job to allocate target and distribution libraries for HAHP220	IBM.HAHP220.F2
HPSDDDEF	DDDEF	Sample job to define SMP/E DDDEFs for HAHP220	IBM.HAHP220.F2
HPSAPPLY	APPLY	Sample APPLY job for HAHP220	IBM.HAHP220.F2
HPSACCEP	ACCEPT	Sample ACCEPT job for HAHP220	IBM.HAHP220.F2

Figure 12 (Page 2 of 2). Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
HRFRECEV	RECEIVE	Sample RECEIVE job for HHRF110	IBM.HHRF110.F2
HRFALLOC	ALLOCATE	Sample job to allocate target and distribution libraries for HHRF110	IBM.HHRF110.F2
HRFDDEDEF	DDDEF	Sample job to define SMP/E DDDEFs for HHRF110	IBM.HHRF110.F2
HRFAPPLY	APPLY	Sample APPLY job for HHRF110	IBM.HHRF110.F2
HRFACCEP	ACCEPT	Sample ACCEPT job for HHRF110	IBM.HHRF110.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 32) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 12 on page 28 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.HAHP220.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.HAHP220.F2,UNIT=tunit,
//* VOL=SER=AHP220,LABEL=(3,SL),
//* DISP=(OLD,KEEP)
//*****
//* Make the //FILEIN DD statement below active for *
//* downloaded DASD files. *
//*****
//*FILEIN DD DSN=IBM.HAHP220.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,(15,5,15))
//SYSUT3    DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN     DD *
//          COPY INDD=xxxxIN,OUTDD=OUT
/*

```

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

TAPEIN:

tunit is the unit value that matches the product package.
volser is the volume serial that matches the product package.
x is the tape file number that indicates the location of the data set name on the tape.
See the documentation that is provided by CBPDO for the location of IBM.HAHP220.F2 on the tape.

FILEIN:

filevol is the volume serial of the DASD device where the downloaded files reside.

OUT:

jcl-library-name is the name of the output data set where the sample jobs are stored.
dasdvol is the volume serial of the DASD device where the output data set resides.

SYSIN:

xxxxIN is either TAPEIN or FILEIN depending on your input DD statement.

```

//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.HHRF110.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.HHRF110.F2,UNIT=tunit,
/*          VOL=SER=HHRF110,LABEL=(3,SL),
/*          DISP=(OLD,KEEP)
//*****
/* Make the //FILEIN DD statement below active for           *
/* downloaded DASD files.                                    *
//*****
/*FILEIN   DD DSN=IBM.HHRF110.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,(15,5,15))
//SYSUT3    DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN     DD *
           COPY INDD=xxxxIN,OUTDD=OUT
/*
```

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

TAPEIN:

tunit is the unit value that matches the product package.

volser is the volume serial that matches the product package.

x is the tape file number that indicates the location of the data set name on the tape.

See the documentation that is provided by CBPDO for the location of IBM.HHRF110.F2 on the tape.

FILEIN:

filevol is the volume serial of the DASD device where the downloaded files reside.

OUT:

jcl-library-name is the name of the output data set where the sample jobs are stored.

dasdvol is the volume serial of the DASD device where the output data set resides.

SYSIN:

xxxxIN is either TAPEIN or FILEIN depending on your input DD statement.

Sample jobs and instructions for installing other components are contained in the following publications which can be found on the the IBM Publications Center at:

<http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

- GI10-8270 IBM IMS High Performance Unload for z/OS Program Directory (FMID H1IN120)
- GI10-8589 IBM IMS High Performance Load for z/OS Program Directory (FMID H1IM210)
- GI10-8783 IBM IMS High Performance Pointer Checker for z/OS Program Directory (FMIDs HPC2310 and H22K310)
- GI10-8798 IBM IMS Library Integrity Utilities for z/OS Program Directory (FMID H27P220)
- GI10-8592 IBM IMS High Performance Prefix Resolution for z/OS Program Directory (FMID H1IP310)
- GI10-8571 IBM IMS Index Builder for z/OS Program Directory (FMID H22O310)
- GI10-8671 IBM IMS High Performance Image Copy for z/OS Program Directory (FMID H1J0420)
- GI10-8756 IBM IMS Database Reorganization Expert for z/OS Program Directory (FMID H25N410)
- GI13-4331 IBM IMS Administration Tool for z/OS Program Directory (FMID HALC110)
- GI13-5920 IMS High Availability Large Database Toolkit (HIHC110)

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 the sample job HPSALA to allocate the SMP/E data set. 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 the sample jobs HPSALB, to initialize SMP/E zones. 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 Database Solution Pack as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the IMS Database Solution Pack FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit sample job HPSRECEV to perform the SMP/E RECEIVE for IMS Database Solution Pack, FMID: HAHP220. Consult the instructions in the sample job for more information.

6.1.8 Perform SMP/E RECEIVE for IMS Online Reorganization Facility (HHRF110)

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

You can also choose to edit and submit sample job HRFRECEV to perform the SMP/E RECEIVE for IMS Online Reorganization Facility FMID: HHRF110. Consult the instructions in job for more information.

6.1.9 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job HPSALLOC to allocate the SMP/E target and distribution libraries for IMS Database Solution Pack. Consult the instructions in the sample job for more information.

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

6.1.10 Allocate SMP/E Target and Distribution Libraries for IMS Online Reorganization Facility (HHRF110)

Edit and submit sample job HRFALLOC to allocate the SMP/E target and distribution libraries for IMS Online Reorganization Facility. 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.

6.1.11 Create DDDEF Entries

Edit and submit sample job HPSDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IMS Database Solution Pack. Consult the instructions in the sample job for more information.

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

6.1.12 Create DDDEF Entries for IMS Online Reorganization Facility (HHRF110)

Edit and submit sample job HRFDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for IMS Online Reorganization Facility. 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.

6.1.13 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job HPSAPPLY to perform an SMP/E APPLY CHECK for IMS Database Solution Pack. Consult the instructions in the sample job for more information.

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

You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been

analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied to resolve all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

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

Here are sample APPLY commands:

- a. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your environment and if you should bypass the specific ERROR HOLDS in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

- b. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

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

This method is the quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDS during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

2. After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Note: The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

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

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

6.1.14 Perform SMP/E APPLY for IMS Online Reorganization Facility (HHRF110)

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job HRFAPPLY to perform an SMP/E APPLY CHECK for IMS Database Solution Pack. Consult the instructions in the sample job for more information.

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

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

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

Here are sample APPLY commands:

- a. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet. You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your

environment and if you should bypass the specific ERROR HOLDS in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

- b. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist. After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

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

This method is the quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs. If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDS during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

2. After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Note: The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

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

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

6.1.15 Execute Installation Verification Program for IMS Database Solution Pack

The Installation Verification Program: HPSAIVP (found in the SHPSJCL0 data set) verifies IMS Database Solution Pack and its individual products. Following tools run in this JOB:

- IMS DB Reorg Expert, H25N410
- IMS HP Unload, H11N120

- IMS HP Load, H1IM210
- IMS HP Image Copy, H1J0420
- IMS Library Integrity Utilities, H27P220
- IMS HP Pointer Checker, HPC2310

Edit and submit job **HPSAIVP** in the **SHPSJCL0** to run the Installation Verification test for IMS Database Solution Pack. Consult the instructions in the job for more information.

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

The job can also be considered to have run correctly if STEP13 (only) has a Return Code = 01

6.1.16 Perform SMP/E ACCEPT

Edit and submit sample job HPSACCEP to perform an SMP/E ACCEPT CHECK for IMS Database Solution Pack. Consult the instructions in the sample job for more information.

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

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

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

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

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

6.1.17 Perform SMP/E ACCEPT for IMS Online Reorganization Facility (HHRF110)

Edit and submit sample job HPSACCEP to perform an SMP/E ACCEPT CHECK for IMS Database Solution Pack. Consult the instructions in the sample job for more information.

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

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

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

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

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

6.1.18 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 Database Solution Pack, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

For more information about REPORT CROSSZONE, see the SMP/E manuals.

6.2 Activating IMS Database Solution Pack

For customization of IMS Database Solution Pack use the IMS Tools SETUP utility, which is distributed with IBM Tools Base for z/OS. The SETUP utility is a Rexx utility that provides an ISPF interface to guide you through the customization of all required tools, including the components of both IBM Tools Base and IMS Database Solution Pack. SETUP will generate JCL/Tasks in the order in which they must be executed by you and consolidates like tasks to avoid repetitive requests for each product within your organization. Help is provided at the panel and field level, so no customization guides are needed.

IBM strongly recommends you use the IMS Tools SETUP utility to consolidate the customization of each of the components of IMS Database Solution Pack versus going through the steps in each Overview and Customization Guide. It also provides an easy and quick way to verify the installation and customization.

To begin the customization process, execute the following Rexx EXEC in ISPF:
EXEC 'yourSMPEhlq.SHKTCEXE(HKTQSETU)' 'yourSMPEhlq'

For more information about customization and use of the various components of IMS Database Solution Pack refer to the following publications:

- IBM IMS Database Solution Pack Overview and Customization, SC27-9037
- IBM IMS Administration Tool for z/OS User's Guide and Reference, SC27-9011
- IBM Tools Base for z/OS Configuration Guide for IMS, SC19-4370
- IBM Management Console for IMS and DB2 for z/OS User's Guide, SC27-6714

7.0 Notices

References in this document to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe on any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, is the user's responsibility.

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".

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, New York 10504-1785
USA

For online versions of this book, we authorize you to:

- Copy, modify, and print the documentation contained on the media, for use within your enterprise, provided you reproduce the copyright notice, all warning statements, and other required statements on each copy or partial copy.
- Transfer the original unaltered copy of the documentation when you transfer the related IBM product (which may be either machines you own, or programs, if the program's license terms permit a transfer). You must, at the same time, destroy all other copies of the documentation.

You are responsible for payment of any taxes, including personal property taxes, resulting from this authorization.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.

Your failure to comply with the terms above terminates this authorization. Upon termination, you must destroy your machine readable documentation.

7.1 Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Reader's Comments

Program Directory for IBM IMS Database Solution Pack for z/OS, February 2021

We appreciate your input on this publication. Feel free to comment on the clarity, accuracy, and completeness of the information or give us any other feedback that you might have.

Use one of the following methods to send us your comments:

1. Send an email to comments@us.ibm.com
2. Use the form on the Web at:
www.ibm.com/software/ad/rcf/

Include the following information:

- Your name and address
- Your email address
- Your telephone or fax number
- The publication title and order number
- The topic and page number related to your comment
- The text of your comment

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

IBM or any other organizations will only use the personal information that you supply to contact you about the issues that you submit.

Thank you for your participation.



Printed in USA

G110-8942-06

