

Installation and Migration

Information Management software



Installation and Migration

- Packaging, Prerequisites and Coexistence
- IMS Publications Changes
- IMS Tools support
- IVP and Syntax Checker Enhancements
- Installation and Migration Tasks

Packaging, Prerequisites and Coexistence

IMS 12 Packaging

- IMS 12 product number: 5635-A03

FMID	Feature Description
HMK1200	System Services
JMK1201	Database Manager
JMK1202	Transaction Manager
JMK1203	Extended Terminal Option (ETO)
JMK1204	Recovery Level Tracking (RSR)
JMK1205	Database Level Tracking (RSR)
JMK1206	IMS Java and On Demand
HIR2220	IRLM 2.2
HIR2230	IRLM 2.3

773

IMS 12 packaging is the same as that for IMS 11 and IMS 10. Transaction Manager is a prerequisite for ETO. Recovery Level Tracking RSR is a prerequisite for Database Level Tracking RSR.

With CBPDO both IRLM 2.2 and IRLM 2.3 are shipped with IMS 12. Only IRLM 2.3 is shipped with ServerPac. Both are supported with IMS 12, IMS 11 and IMS 10. IRLM 2.3 requires z/OS 1.10 or above and only runs on z-Architecture systems.

IMS 12 Hardware Prerequisites

- **IMS 12 requires the following hardware:**
 - A 64-bit IBM zSeries® processor running in z/Architecture® mode (ESA mode is not supported by IMS 12)
 - Capable of running z/OS Version 1 Release 11 or later
 - A processor that supports the Long Displacement Facility of the z/Architecture
- **Sysplex data sharing**
 - Requires Coupling Facility (CF) level 9 or later
- **Shared Queues and Shared EMH**
 - Require Coupling Facility (CF) level 9 or later
 - System managed duplexing requires CF level 12 or later and bidirectional CF to CF links

774

IMS 12, IMS 11 and IMS 10 run only on 64 bit processors in z/Architecture mode. IMS 12 adds another hardware prerequisite which was not required for IMS 11 or IMS 10. This is the Long-Displacement Facility of the z/Architecture. This is included in all z800, z890, z990, z9, z10 and z196 processors. For the z900 processor, all current service levels of the microcode level 3G or later include the facility. The Long-Displacement Facility is also required for DB2 for z/OS Version 8 and later. If an IMS 12 control region or batch job is started on a system which does not include the Long-Displacement Facility the following message is issued which is followed by abend U0684.

```
DFS2342E IMS 12.1 REQUIRES LONG DISPLACEMENT FACILITY
```

If a BPE region (CQS, ODBM, OM, RM, SCI, IMS Connect) is started on a system which does not include the Long-Displacement Facility the following message is issued which is followed by abend U3400.

```
BPE0045E BPE 1.8 REQUIRES LONG DISPLACEMENT FACILITY
```

The coupling facility requirements for IMS Parallel Sysplex data sharing and for shared queues and Shared EMH are the same as they are for IMS 10 and IMS 11.

IMS 12 Software Prerequisites

- **Minimum software level prerequisites**
 - z/OS V1R11 (5694-A01)
 - DFSMS APAR OA33409 for V1R11
 - High Level Assembler Toolkit (5696-234), Version 1 Release 5
 - SMP/E V3R5
 - RACF, or equivalent, if security is used
 - IRLM 2.2, if IRLM is used
- **Minimum software levels for optional functions:**
 - Parallel RECON Access requires Transactional VSAM
 - Java Dependent Regions require JDK 6.0
 - The IMS Universal Drivers require JDK 6.0
 - Greater than 16 VSAM pools requires DFSMS APAR OA32318
 - CA Reclaim requires z/OS V1R12
 - EAV support for non-VSAM data sets requires z/OS V1R12

775

IMS 12 requires z/OS V1R11 or a later release of z/OS.

DFSMS APAR OA33409 is required for z/OS V1R11.

High Level Assembler Toolkit (5696-234) is a separately orderable feature of z/OS.

SMP/E Version 3 Release 5 is required.

If security is used, RACF or an equivalent product is required.

The IRLM is not required with IMS 12 unless you implement block level data sharing. If IRLM is used, it must be IRLM 2.2 or later.

Transactional VSAM (TVS) is included in the separately orderable feature z/OS DFSMS Transactional VSAM Services.

Java dependent regions require JDK 6.0 or later. The IMS Universal Drivers require JDK 6.0 or later.

VSAM support for more than 16 full function database buffer pools requires DFSMS APAR OA32318. The PTFs are UA57797 for z/OS V1R11 and UA57798 for z/OS V1 R12.

The CA Reclaim capability and EAV support for non-VSAM data sets are available only with z/OS V1R12 or a later release of z/OS.

IMS Enterprise Suite for z/OS, V2.1 (5655-T62)

- Available October 28, 2011
- The SOAP Gateway, Connect API for Java™, Java Message Services (JMS) API, and Base Services components for running in the z/OS environments are orderable
- **IMS Explorer (NEW)**, DLIModel Utility, Connect API for C, SOAP Gateway, Connect API for Java components for running in Windows® or Linux® environments can be downloaded from the IMS website
- Details at: <http://www.ibm.com/ims>

A new version of the IMS Enterprise Suite is now available.

Additional IMS 12 Prerequisites

- See the IMS 12 Release Planning (GC19-3019-01) for additional requirements
 - Available at: <https://www-304.ibm.com/support/docview.wss?uid=swg27019860>
 - Available in the Information Center at: <http://publib.boulder.ibm.com/infocenter/dzichelp/v2r2/index.jsp>

Prerequisite Maintenance

- Fixes for Migration Download enhanced holddata
 - Run SMPE: REPORT MISSINGFIX (FIXCAT)

The following are the categories that we have defined for IMS (the ones in red were set up for tools to use in their service):

Category: **IBM.Coexistence.IMS.V10**

Keywords: IMSV10COEX/K

Description: Fixes that allow IMS V8 and V9 to coexist with, and fallback from, IMS V10.

Category: **IBM.Coexistence.IMS.V11**

Keywords: IMSV11COEX/K

Description: Fixes that allow IMS V9 and V10 to coexist with, and fallback from, IMS V11.

Category: **IBM.Coexistence.IMS.V12**

Keywords: IMSV12COEX/K

Description: Fixes that allow IMS V10 and V11 to coexist with, and fallback from, IMS V12.

Category: **IBM.TargetSystem-RequiredService.IMS.V10**

Keywords: IMSV10TGT/K

Description: Fix required on other IBM products to allow them to run with IMS V10.

Category: **IBM.TargetSystem-RequiredService.IMS.V11**

Keywords: IMSV11TGT/K

Description: Fixes required on other IBM products to allow them to run with IMS V11.

Category: **IBM.TargetSystem-RequiredService.IMS.V12**

Keywords: IMSV12TGT/K

Description: Fixes required on other IBM products to allow them to run with IMS V12.

<http://www-03.ibm.com/systems/z/os/zos/smpe/fixcategory.html>

Support Status of IMS Versions

- **IMS Version 9**
 - End of service was November 7, 2010
- **IMS Version 10**
 - Generally available on October 26, 2007
 - End of service is November 5, 2012 - **NEW**
- **IMS Version 11**
 - Generally available on October 30, 2009
 - End of service has not been announced
- **IMS Version 12**
 - Generally availability on October 28, 2011
 - End of service has not been announced

Withdrawn Support

- **IMS 11 is the last release to support the SMU-to-RACF utilities**
 - IMS 9 was the last version of IMS to support SMU
 - Migration from SMU to RACF or an equivalent product should be done on IMS 9 or earlier

- **IMS 10 is the last release to support z/OS-based batch DLIModel utility**
 - IMS Enterprise Suite V1.1 DLI Model Utility plug-in should be used with IMS 12

- **IMS 12 is the last release to support the SECURITY macro in system definition**
 - Use the initialization parameters

780

IMS 9 was the last version of IMS to support the Security Management Utility (SMU). IMS supplied SMU-to-RACF utilities to provide assistance in the migration from SMU to RACF. These utilities are not supplied with IMS 12. Users of SMU should migrate from SMU to RACF or an equivalent product while on IMS 9 or an earlier version of IMS.

IMS 12 does not include the DLI Model batch utility. The DLI Model utility is available with the IMS Enterprise Suite V1.1. Users of the DLI Model utility should use the plug-in supplied with the IMS Enterprise Suite.

IMS 12 is the last release to support the SECURITY macro in system definition. Initialization parameters will be available to be used instead.

Withdrawn Support

- **IMS 11 is the last release to support the Knowledge Based Log Analysis (KBLA) facility**
 - Customers using this function should migrate to use other IMS-provided analysis utilities and reports, such as
 - Fast Path Log Analysis utility (DBFULTA0)
 - File Select and Formatting Print utility (DFSERA10)
 - IMS Monitor Report Print utility (DFSUTR20)
 - Log Transaction Analysis utility (DFSILTA0)
 - Offline Dump Formatter utility (DFSOFMD0)
 - Statistical Analysis utility (DFSISTS0),
 - Other complementary products, such as IMS Problem Investigator, IMS Performance Analyzer, or similar products.

KBLA (Knowledge Based Log Analysis) is not supported by IMS 12. IMS 11 is the last version of IMS to provide support for KBLA. Two IBM IMS Tools, IMS Performance Analyzer and IMS Problem Investigator, provide capabilities to analyze logs. They provide capabilities similar to those of KBLA plus many more extensive analysis capabilities.

IMS 12 Supported Connections

- **DB2 connections are supported with**
 - DB2 for z/OS 10, 9 and 8
- **DBCTL connections are supported with**
 - CICS Transaction Server V 4.2, V4.1, V3.2 and V3.1
- **Java application programs using JDBC access to IMS DB from WebSphere Application Server for z/OS require**
 - WebSphere Application Server for z/OS 7.0.1 or later
- **IRLM 2.3 and IRLM 2.2 are supported**
 - IMS 12, IMS 11 and IMS 10 may use either IRLM 2.2 or IRLM 2.3
 - IRLM 2.3 and IRLM 2.2 may participate in the same data sharing group and connect to the same lock structure

All currently supported releases of DB2 on z/OS are supported for connections from IMS 12.

All currently supported releases of CICS are supported for DBCTL connectivity to IMS 12.

IMS 12 Supported Connections

- **ISC is supported with**
 - IMS 12, IMS 11, and IMS 10
 - CICS Transaction Server V 4.2, V4.1, V3.2 and V3.1
 - User-written software
- **MSC is supported with**
 - IMS 12
 - IMS 11
 - IMS 10
- **Shared Queues is supported with**
 - IMS 12
 - IMS 11
 - IMS 10

All currently supported releases of IMS and CICS are supported for ISC connectivity to IMS 12.

All currently supported releases of IMS are supported for MSC connectivity to IMS 12.

All currently supported releases of IMS are supported for shared queues with IMS 12 Transaction Manager.

Supported Migrations and Coexistence - DBRC

▪ **IMS 11 to IMS 12**

- Upgrade RECONs from IMS 11 to IMS 12
 - IMS 11 SPE PM05244 / UK62971 allows IMS 11 to use IMS 12 RECONs
- Databases are compatible
- Application programs are compatible

▪ **IMS 10 to IMS 12**

- Upgrade RECONs from IMS 10 to IMS 12
 - IMS 10 SPE PM05243 / UK62970 allows IMS 10 to use IMS 12 RECONs
- Databases are compatible
- Application programs are compatible

IMS 10 and IMS 11 RECONs may be upgraded to IMS 12 by executing the DBRC utility (DSPURX00) and using the CHANGE.RECON UPGRADE command with an IMS 12 SDFSRESL library. Before doing the upgrade you should apply the Small Programming Enhancement to your IMS 10 or IMS 11. This allows the IMS 10 or IMS 11 systems to use the RECONs after they have been upgraded to IMS 12.

IRLM 2.3

- IRLM 2.3 and IRLM 2.2 are both shipped with IMS 12
- IRLM 2.3 and IRLM 2.2 may be used with any supported version of IMS
 - IRLM 2.3 is required by DB2 Version 10
 - IRLM 2.3 has 64-bit caller interface
 - IMS continues to use the 31-bit caller interface
 - IRLM 2.3 requires z/OS 1.10 or higher
- IRLM 2.3 provides improved performance for some requests
 - We do not expect a substantial performance improvement with IRLM 2.3 with IMS

785

Both IRLM 2.2 and IRLM 2.3 are delivered with IMS 12. Both of these IRLMs may be used with any supported version of IMS.

IRLM 2.3 is required by DB Version 10; however, IRLM 2.2 may be used by the IMS database manager when DB2 is using IRLM 2.3. IRLM 2.3 supplies a 64-bit caller interface that is required by DB2 Version 10. IMS does not use this interface.

IRLM 2.3 must run under z/OS 1.10 or higher.

IRLM 2.3 provides some improved performance; however, we do not expect substantial performance improvements with IMS.

DBCTL, ODBA and ODBM Migration

- **The DRA interface modules must be at the same version as IMS**
 - Copy DFSPRRC0 and DFSPZPxx load modules to the address spaces which communicate with IMS
 - Include these modules from IMS 12 in the CICS, ODBM and ODBA (DB2 Stored Procedures, WebSphere Application Server, etc.) address spaces

The DRA interface modules are DFSPRRC0 and the DFSPZPxx member which is the DRA startup table. It is generated from the DFSPRP macro. These modules are specific to a version of IMS. They reside in the address space which communicates with IMS. These address spaces may include CICS, ODBM and the address spaces using ODBA, such as DB2 stored procedures and WebSphere Application Server.

Migration with DRD

- **IMS 12 system may be cold started with RDDS from IMS 11 or IMS 10**
 - IMSID must remain the same

- **IMS 11 or IMS 10 system may be cold started with RDDS from IMS 12 for fall back**
 - IMSID must remain the same

787

Installations which have implemented DRD in IMS 11 or IMS 10 may carry their DRD definitions forward to IMS 12 by using the RDDS. When IMS 12 is cold started, it may import its database, program, transaction, and routing code definitions from an RDDS created with IMS 11 or IMS 10.

Similarly, for a fall back from IMS 12 to IMS 11 or IMS 10 you may cold start the IMS 11 or IMS 10 system and import definitions from an RDDS created by IMS 12.

For both migration and fall back, the IMSID must be the same as that used by the system which created the RDDS.

CSL Coexistence

- **IMS 12, IMS 11 and IMS 10**
 - CSL address spaces and IMS may be at mixed levels
 - SCI, OM, RM, ODBM and IMS subsystems may be at IMS 12, IMS 11 and IMS 10
 - IMS 12 is recommended for the CSL address spaces

- **IMS Repository requires IMS 12 RM**
 - Migration SPEs for IMS Repository:
 - Ensure that all RMs are at IMS 12 level for users of Repository

788

When migrating a system using the Common Service Layer address spaces, any address space may be migrated to IMS 12 before the other address spaces are migrated. It is permissible to have some SCI, RM, OM, ODBM and IMS subsystems on IMS 12 while others are on IMS 11 and/or IMS 10. Of course, ODBM must be at either IMS 12 or IMS 11 since it is not available with IMS 11.

The use of IMS 12 CSL address spaces is recommended when any IMS subsystem is at IMS 12.

The IMS Repository requires the RM to be at IMS 12. There is coexistence maintenance associated with this. The maintenance ensures that all RM address spaces are at IMS 12 for users of the IMS Repository.

Coexistence Maintenance

- See Chapter 4 of IMS 12 Release Planning (GC19-3019-01) for coexistence maintenance requirements
 - Available at: <https://www-304.ibm.com/support/docview.wss?uid=swg27019860>
 - Available in the Information Center at: <http://publib.boulder.ibm.com/infocenter/dzichelp/v2r2/index.jsp>

Additional coexistence maintenance is listed in Chapter 4 of IMS 12 Release Planning.

Coexistence - IMS Utilities

- **Batch Backout, Log Archive, and Log Recovery**
 - Use the utility from the IMS release that created the log
- **IMS 12 Database Recovery utility**
 - Accepts Image Copies produced by IMS 12, IMS 11 and IMS 10
 - Accepts HISAM Unloads produced by IMS 12, IMS 11 and IMS 10
 - Accepts Change Accum data sets produced by IMS 12, IMS 11 and IMS 10
 - Accepts logs produced by IMS 12, IMS 11 and IMS 10
- **IMS 12 Change Accumulation utility**
 - Accepts logs produced by IMS 12, IMS 11 and IMS 10
 - Accepts Change Accum data sets produced by IMS 12, IMS 11 and IMS 10

790

The Batch Backout, Log Archive, and Log Recovery utilities access one log. The release level of the utility must match the IMS release that was used to create the log.

The IMS 11 Database Recovery utility (DFSURDB0) accepts Image Copies, HISAM Unload data sets, Change Accumulation data sets, and IMS logs as inputs. These inputs may be created by any currently supported release of IMS.

The Change Accumulation utility accepts IMS logs and Change Accumulation data sets as inputs. These inputs may be created by any currently supported release of IMS.

Remote Site Recovery (RSR) Migration/Coexistence

- IMS 12 RSR tracking system can process logs created by IMS 12, IMS 11, or IMS 10
- IMS 12 RSR Isolated Log Sender can send logs created by IMS 12, IMS 11, or IMS 10
- Logs created by IMS 12 cannot be processed by IMS 11 or IMS 10 tracking system or Isolated Log Sender

- **Migration steps**
 - Upgrade the RSR tracking system RECONs to IMS 12
 - Migrate RSR tracking system to IMS 12
 - Upgrade the active system RECONs to IMS 12
 - Migrate active system Transport Manager Subsystem (TMS) running Isolated Log Sender to IMS 12
 - Migrate active IMS to IMS 12

791

The migration of systems using RSR is similar to migrations for previous releases. IMS 12 tracking systems can process logs produced by lower releases. The IMS 12 Isolated Log Sender (ILS) function of the Transport Manager System (TMS) can process logs created by lower releases. On the other hand, IMS 11 and IMS 10 tracking systems cannot accept logs produced by IMS 12 and the IMS 11 and IMS 10 ILSs cannot accept logs produced by IMS 12. Of course, you could migrate all of the RSR components at the same time. You would more likely prefer to migrate them in stages. The restrictions mentioned above imply that the order of migration of the components is as shown on the slide. The tracking system must be migrated before or at the same time as the ILS at the active site. The ILS at the active site must be migrated before or at the same time as the active IMS system. The RECONs must be upgraded to IMS 12 before the systems that use them are migrated to IMS 12.

Log Records

- Change in log suffix
 - Timestamp in log record suffix is no longer necessarily unique
 - Previous versions produced unique timestamps
- Some log records have changed
- New log records have been added
- DSECTS for most IMS log records may be generated by assembling:
 - ILOGREC RECID=ALL

792

There is a change in IMS 12 which could affect any log record. The log record suffix contains an 8-byte time stamp in hardware TOD (STCK) format. In previous versions of IMS this time stamp was unique. It was always greater than the time stamp in the previous log record. This is not necessarily true in IMS 12. Successive records may have the same time stamp. As in previous versions the log suffix also contains a sequence number. This is always greater than the sequence number of the previous record.

If you have application programs which process IMS log records, you should examine to see if they are affected by the changes to the log records. You can assemble DSECTS for IMS log records by using the ILOGREC macro.

Log records which are new or changed in IMS 12 include the following hexadecimal log record types: 22, 4507, 4513, 50, 51, 52, 53, 5950, 6701, 67D0, and 9904.

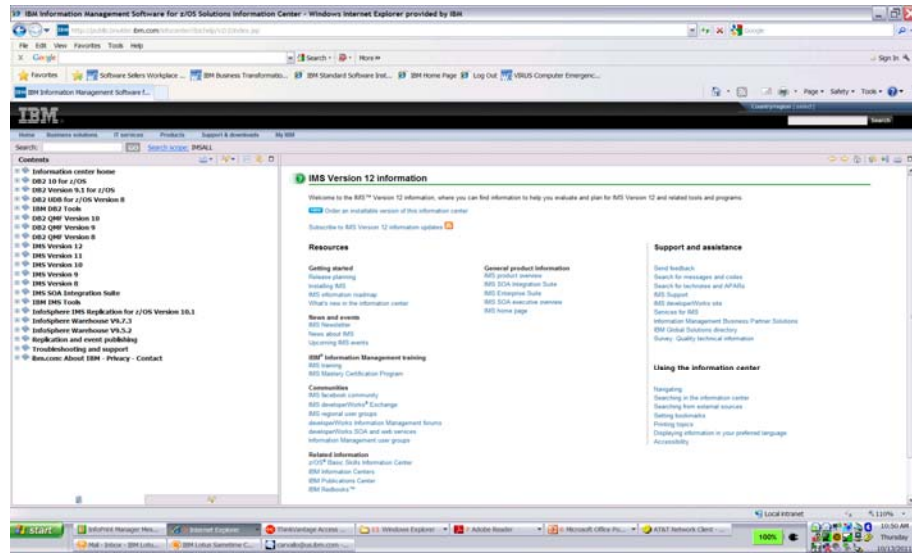
IMS Publications

- **IMS publications structure and titles remain the same as in IMS 11**
 - PDF master index and glossary are not available
 - Master index and glossary are included in the information center
 - Bookmanager format publications will not be published (same as IMS 11)

- **All publications will be available in hardcopy for an additional charge**

IMS Library

- The Information Center contains information on IMS 12
- <http://publib.boulder.ibm.com/infocenter/dzichelp/v2r2/index.jsp>



794


The Information Center has been updated to include information on IMS 12.

IMS 12 Redbook Announcement

IBM, Information Management Software
Draft Document for Review October 11, 2011 7:18 pm
SG24-7972-00

IBM IMS Version 12 Technical Overview

Explore IMS 12 functions
Understand advantages and applicability
Plan for installation or migration



Paolo Bruni
Isabelle Brunel
Angie Greenhaw
Dougie Lawson
Jorge Alberto Luz Ribeiro
Egide Van Aershot

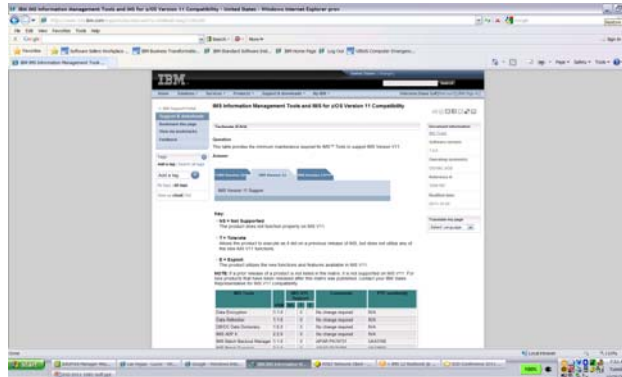
ibm.com/redbooks

Redbooks

- Just released!
- Discusses all IMS 12 capabilities from a user perspective
- Draft available for free download at <http://www.redbooks.ibm.com>

IMS Tools Migration/Coexistence

- Some products may require updates
 - Contact your vendors for information on requirements
 - IBM has a web site with consolidated information about requirements for IBM IMS tools with IMS 12
 - <https://www-304.ibm.com/support/docview.wss?rs=434&uid=swg21296180>



IBM IMS Tools - Highlights

- **New IMS Tools Solution Packs**
 - In general, IBM will support the latest stand-alone version of every tool as well as their Solution Pack counterpart if one exists
 - Special circumstances not withstanding
 - Latest versions of TOSI, Generic Exits, IMS Tools Knowledge Base, and HD Compression Extended are only supported in the IMS Tools Base Pack for z/OS.
 - Fast Path Secondary Index creation tool is included in the IMS Fast Path Solution Pack for z/OS, V1.2

IVP Enhancements

- **Repository usage for DRD is added to IVP**
 - IVP provides sample JCL to create repository catalog data sets and the IMS repository
 - IVP provides sample repository server PROC and its configuration file
 - Sample JCL is provided to:
 - Add an IMS repository into the repository catalog
 - Rename a repository in the repository catalog
 - Delete a repository in the repository catalog
 - List the status information for all repositories
 - List the detailed information for a single repository

798

The implementation of the new Repository capability is done in the Ox series. There is no change in the system definition process (the Cx series).

The tasks IV_D201T, IV_D202T are updated to do the APF authorization and to place the modules into LPA. Job IV_E302J is updated to add the new repository server proc and the server configuration member into PROCLIB. Job IV_O101J is updated to create repository catalog data sets and IMS repository data sets.

The following new jobs are added:

- IV_O200J Start the repository server
- IV_O223J Add a Repository To The Catalog
- IV_O224J List Status Information For All Repositories
- IV_O225J Rename a Repository In The Catalog

Syntax Checker Enhancements

- Syntax Checker supports PROCLIB members for IMS 12, IMS 11 and IMS 10
 - IMS 9 PROCLIB members are not supported
- All previously supported members are supported
 - Newly added parameters of these members are supported
- Support added for Repository Server configuration member
- Support added for dynamic full-function database buffer pools
- Support added to view and save parameters of members in a custom order
 - Formerly, only alphabetical order was used
 - Delivered through the IMS service process (PM30599/UK74973)

799

In IMS 11 the Syntax Checker supported the following members:

DFSPBxxx	DFSDCxxx
DFSSQxxx – Shared Queues	DFSDFxxx – Dynamic Resource Definition
DFSCGxxx – Common Service Layer	CSLOIxxx – OM Initialization
CSLRIxxx – RM Initialization	CSLSIxxx – SCI Initialization
CQSIPxxx – CQS Initialization	CQSSLxxx – CQS Local Structure Definition
CQSSGxxx – Global Structure Definition	BPE User Exit List member
IMS Connect Configuration member	CSLDIxxx - ODBM initialization member
CSLDCxxx - ODBM configuration member	DSPBIxxx - DBRC initialization member

IMS 12 adds support for the Repository Server configuration member.

IMS 12 also adds support for listing parameters in a custom order instead of alphabetical order. To support “Alphabetical Order” and “Custom Order” are added to the View pull down menu options. These options control how the parameters are displayed. In addition to this, when a member is saved a pop-up panel is displayed allowing the user to choose either custom or alphabetical order for the saved member.

Installation and Migration Tasks

Installation and Migration Tasks

- **Migration Tasks**
 - Review the IMS 12 *Release Planning* publication
 - Check PSP bucket
 - PSP upgrade name is IMS1200
 - Use SMP FIXCAT HOLDDATA to simplify identifying required service from PSP buckets
 - Review the Program Directory
 - Available through the Info Center
 - Review the installation information in Chapter 1 of the *Installation* publication
 - Install prerequisite software and maintenance
 - Check your IMS tools and related products
 - Apply coexistence maintenance to other IMS systems

801

This is an overview of the tasks for migration to IMS 12.

As for all installations of new products the Preventive Service Planning (PSP) bucket and the Program Directory for the product should be reviewed before beginning the migration.

z/OS Release 10 and SMP/E Release 3.5 introduce FIXCAT HOLDDATA to simplify identifying required service from PSP buckets

- The following contains all FIXCAT categories and their descriptions:
 - <http://www-03.ibm.com/systems/z/os/zos/smpe/fixcategory.html>
- Specify FIXCAT operand on the APPLY and ACCEPT command
- SMP/E REPORT MISSING FIX command used to identify service not installed

The Program Directory is available through the Info Center.

You should read the IMS 12 *Installation* publication before beginning the migration process. Chapters 1 should be reviewed for installation information.

Other products may need to be upgraded for use with IMS 12. They could require maintenance or new releases.

You should apply DBRC coexistence SPEs to your IMS 11 or IMS 10 systems before upgrading your RECONS to IMS 12. This is required for the IMS 11 or IMS 10 systems to be able to use the RECONS after the upgrade.

Similarly, you should apply the other coexistence SPEs to your lower level IMS systems.

Installation and Migration Tasks

- **Migration Tasks (continued)**
 - Evaluate and update IMS exit routines
 - RECON I/O Exit Routine (DSPCEXT0)
 - If migrating from IMS 10
 - DFSMSCE0 must be reassembled
 - All IMS Connect exits must be reassembled when migrating IMS Connect
 - HWSIMSO0 and HWSIMSO1 are not shipped with IMS 12
 - Recommendation
 - Reassemble all exit routines which use IMS macros
 - Install IMS 12 using SMP/E installation process
 - CBPDO or ServerPac may be used
 - System definition
 - “ALL” sysgen

802

The only user exit routine that must be updated for use with IMS 12 is the RECON I/O Exit Routine (DSPCEXT0). If you use a RECON I/O Exit Routine, you should examine it for required changes due to the change in RECON records. The DFSMSCE0 exit must be reassembled for use with IMS 12 if you are migrating from IMS 10. Similarly, all IMS Connect exit routines must be reassembled when migrating IMS Connect to IMS 12 from IMS 10. The IMS Connect HWSIMSO0 and HWSIMSO1 exit routines are not shipped with IMS 12 or IMS 11. The HWSSMPL0 and HWSSMPL1 exit routines provide enhanced functionality and are delivered as source code with IMS 12 and previous versions. They should be used in place of HWSIMSO0 and HWSIMSO1.

Reassemble of all exit routines which use IMS macros is recommended. Macros and offsets may have changed between releases.

CBPDO is Custom-Built Product Delivery Offering. The CBPDO product package consists of one logical tape (multiple volumes). A CBPDO package that includes IMS can also include other products in the same System Release (SREL). CBPDO also provides service for the products included with the product order. The service includes all PTFs available within one week of order fulfillment. All PTFs are identified by one or more SOURCEIDs, including PUTyymm, RSUyymm, SMCREC, and SMCCOR.

ServerPac is an entitled software delivery package. It consists of products and service for which IBM has performed the SMP/E installation steps and some of the post-SMP/E installation steps. To install the package on your system and complete the installation of the software it includes, use the CustomPac Installation Dialog, which is the same dialog used for all CustomPac offerings, including SystemPac® (dump-by-data-set format), ProductPac®, and RefreshPac. For IMS, ServerPac allocates, catalogs, and loads all the data sets; sets up the SMP/E environment; supplies a job to update PARMLIB (IEFSSNxx, PROGxx, IEASVCxx, and SCHEDxx) ; and directs you to start the IVP

System definition is required as with previous IMS releases. Most system definition statements from previous IMS releases are compatible with IMS 12. This must be an “ALL” sysgen.

Installation and Migration Tasks

- **Migration Tasks (continued)**

- Install the Type 2 and Type 4 SVCs
- Upgrade RECONs
- ACBGEN
- Run the IVP
- Include DFSPRRC0 and DFSPZPxx modules in CICS, ODBM and ODBA address spaces

System definition creates the Type 2 and Type 4 SVC modules which must be installed in the z/OS system. A z/OS IPL is not required. They may be installed by running DFSUSVC0 and specifying SVCTYPE=(2,4).

Upgrade the RECONs by using the CHANGE.RECON UPGRADE command using the IMS 12 release of the DBRC utility. Specifying the RECON qualifier is not required, but it is recommended.

An ACBGEN is required for use with the online system or any batch DBB jobs.

Running the IVP is optional, but recommended. All required installations tasks are done outside of the IVP. The IVP verifies that the installation is correct.

Address spaces which use DRA must have the updated interface modules from IMS 12. These modules are DFSPRRC0 and the DFSPZPxx member generated from the DFSPRP macro.

Installation and Migration Summary

- Packaging, Prerequisites and Coexistence
- IMS Publications Changes
- IMS Tools support
- IVP and Syntax Checker Enhancements
- Installation and Migration Tasks