New Information Management System (IMS) V14 and family solutions sharpen your competitive edge

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At a glance

IBM(R) IMS(TM) is the data server of choice for enterprises that win by balancing performance with innovation, security with integration, and scalability with efficiency. With the IBM IMS family of products at the heart of your IT, you can:

- Lead in the new app economy, shrinking time-to-market for mobile and cloud
- Respond in real time to the dynamic needs of the business
- Optimize system efficiency to reduce costs and grow availability

Selected features that can help you achieve these objectives are summarized below. Refer to the Description section of this announcement for detail on these and additional features.

Database manager

- Eliminates the need for system generation processes to manage database schema by introducing data description language (DDL) for schema change in the IMS catalog
- Increases scalability by reducing 24-bit storage consumption for Overflow Sequential Access Method (OSAM) and allows larger OSAM high availability large database (HALDB) partitions
- Extends Fast Path data entry database (DEDB) dynamic change capabilities and automates management of sequential dependent segments (SDEPs) for unbalanced workloads
- Simplifies the resolution of in-doubt processing for Fast Database Recovery (FDBR) environments when updates are made to an external subsystem

Transaction manager

- Eliminates the need for system generation or a system outage to manage Multiple Systems Coupling (MSC) resources
- Increases IMS availability by enabling flood control for APPC conversations
- Accelerates deployment of changed application programs through dynamic refresh
- Increases throughput and failover protection for Open Transaction Manager Access (OTMA) TPIPEs, improves storage management for OTMA descriptors, and enhances OTMA security

Systems and infrastructure

- Introduces a new monitor user exit and provides refresh capability for the type-2 automated operator user exit.

- Enables automatic export of resource definition changes to the IMSRSC repository, as well as the ability to show resource definition changes that have not yet been hardened to the IMS repository.
- Reduces the need for IMS Connect planned outages by extending dynamic change capabilities for additional configuration definitions. Additionally, improves usability for selected commands by returning the result in a synchronous command response.
- Enables automatic use of zEnterprise$^{(R)}$ Data Compression (zEDC) services during image copy operations, when zEDC services are available and compression has been specified.

IBM IMS Enterprise Suite V3.2 and z Systems^{TM} software such as IMS Tools and Tivoli's OMEGAMON$^{(R)}$ for IMS XE support IMS V14 as described throughout this announcement.

IBM IMS Transaction Manager Value Unit Edition V14 and IBM IMS Database Value Unit Edition V14 are also announced. See the Overview section in this announcement for more information.

Quality Partnership Program

IMS V14 is using the Quality Partnership Program (QPP) process. Product information was initially provided on October 7, 2014. Refer to Software Announcement 214-401, dated October 7, 2014.

On December 12, 2014, IBM shipped the product to customers participating in QPP. Validation activities with these customers have confirmed readiness of the product.

Marketing and support withdrawals

Effective October 30, 2015, IBM will withdraw from marketing the IBM IMS Version 14 QPP. The IMS 14 QPP program will be withdrawn from service and support effective December 31, 2015.

IBM IMS Enterprise Suite Version 3.1.1 (5655-TDA) will be withdrawn from marketing on October 5, 2015. Both IMS Enterprise Suite 3.1 and IMS Enterprise Suite 3.1.1 will be withdrawn from service and support on November 7, 2016.

For ordering, contact your IBM representative or an IBM Business Partner. For more information, contact the Americas Call Centers at: 800-IBM-CALL (426-2255).

Reference: YE001

Overview

IMS V14 is the latest release of the data server and transaction manager that has navigated shifting market forces for nearly five decades. Enterprise industries worldwide are in the midst of unprecedented change, driven by the transformative impact of digital business. Doing digital business on IMS V14 gives you the means to support existing clients, deliver new services and offerings, and promote the innovation required to meet the emerging needs of what lies beyond today's digital business era.

A successful journey through your transformation requires an underlying IT infrastructure that is efficient, secure, adaptive, and integrated. Your IT infrastructure must:

- Be designed to handle the explosive growth of increasingly mobile clients and employees
- Leverage new and vast amounts of data
- Provide deeper real-time insight at the point of the greatest business impact
- Do all of this with a secure and resilient, cloud-ready infrastructure

The IMS family of offerings can help you achieve these objectives through new features previewed in this section, including new features in IMS V14 and associated Value Unit Edition offerings, IMS Enterprise Suite V3.2, and IMS Tools.

Easier application deployment and management

Connecting systems of engagement to systems of record is a critical success factor for many enterprise organizations today. With the explosion in the volume of mobile data being processed, the need for seamless application deployment and management and 24x7 availability exists more than ever before. IMS V14 can help you adapt to this growing need by enhancing the application capabilities of IMS while at the same time reducing the business impact of application deployment and management. IMS V14 includes the following benefits:

- IMS V14 offers a standard DDL interface for schema change, broadening the available skill base for managing IMS. Also included is the capability to load application control blocks from the IMS catalog instead of the application control block library (ACBLIB), removing the need for the database description generation (DBDGEN), program specification block generation (PSBGEN), and application control block generation (ACBGEN) processes.
- IMS V14 provides an option to record information about the processing of database access requests by open database manager (ODBM). It provides a log of all work handled by the ODBM address space.
- Users of extended architecture (XA) global transactions who are using the IMS Transaction Manager Resource Adapter can now put IMS Connect and IMS on separate LPARs, offering greater flexibility and failover options.
- Users who use synchronous callout with the ICAL DL/I call can now specify and pass control data to IMS Connect user-written applications.
- Rolling out changes to applications that run as Wait for Input (WFI) or Pseudo Wait for Input (PWFI) is simpler in IMS V14 with a command enhancement that enables you to refresh PWFI or WFI programs in dependent regions without having to recycle the region.
- Additional Structured Query Language (SQL) enhancements provide support for COBOL and Microsoft™.NET applications to group and aggregate data.

Support for growing transaction and data volumes

Increased deployment and usage of web-based, cloud, and mobile applications has led to an explosion in the volume of data that must be managed by core transactional systems within the enterprise. IMS V14 offers the following enhancements to meet the ever-burgeoning demands placed on these systems.

- For full-function OSAM database users, IMS V14 supports the growth of databases within a single IMS by reducing the amount of 24-bit private storage used for each open data set. This release also offers full-function users the capability to allow OSAM HALDB partition data sets to grow to 8 GB if not using the integrated HALDB Online Reorganization (OLR) function of IMS.
- Buffer management is improved for sequential dependent segments (SDEPs) in Fast Path data entry databases (DEDBs) when processing is asymmetric across LPARs.
- A single IMS OTMA TPIPE can now support multiple active RESUME TPIPE requests. This new parallel threading capability for RESUME TPIPE requests can help significantly improve failover protection and increase the throughput and efficiency for IMS callout applications as well as commit mode zero output.
- When transaction volumes from APPC clients grow to volumes that exhaust 31-bit storage, IMS now queues these types of transactions to 64-bit storage to prevent abends, thus improving IMS availability.
- 64-bit storage is now exploited for IMS high-speed utilities (HSRE and HSSP), improving scalability and availability.
- IMS systems that have RACF^(R) security enabled in IMS Connect can now receive a unique IMS user ID and password for each IMS Connection Profile within each z/OS^(R) Connect server instance, removing a prior restriction and allowing finer audit granularity.

IMS Fast Path Solution Pack V1.3 (5655-W14)

Online Expert Reorganization (OER) and Online Space Management (OSM) support FP 64-bit buffers for IMS High-Speed DEDB Direct Reorganization utility.

Greater agility through dynamic change

Business needs can change quickly, and data resources and applications that power the enterprise must therefore adapt quickly as well. IMS V14 enables more dynamic change than ever before in the configuration of your IMS system and resources, helping reduce the need for planned outages. For example:

- Enhancements to IMS Connect commands make it easier to modify the IMS Connect configuration dynamically.
- Storage management is improved for OTMA descriptors with changes in the way storage is allocated and higher limits on the number of descriptors.
- MSC resources can be defined dynamically without the need for a planned outage and MSC can be enabled without first defining MSC resources.
- Additional options for dynamic change to Fast Path DEDBs improve availability and scalability for certain configurations.

Improved integration of IMS and DB2[(R)]

IMS V14 enhances and extends the capabilities of IMS for more robust integration and scalable online transaction processing (OLTP) with DB2 for z/OS. For example:

- IMS V14 includes a new sample user exit that makes it more straightforward to resolve in-doubt threads and potentially reduce the time that DB2 holds locks. The exit applies to IMS Fast Database Recovery (FDBR) users who use the IMS External Subsystem Attach Facility (ESAF) to communicate with DB2. The exit identifies and issues a message for each in-doubt unit of recovery.
- For ESAF users who use IBM MQ or WebSphere[(R)] Optimized Local Adapter (WOLA), new subsystem types are added for these systems so that they are distinguishable from IBM DB2.

Infrastructure enhancements

IMS V14 continues to improve the overall capability, usability, and resiliency of IMS with:

- Flexibility for IMS tooling through a new IMS monitor exit.
- Easier repair of inconsistencies in the Database Recovery Control (DBRC) RECON data set. Also provided is the ability to upgrade an IMS V12 or IMS V13 DBRC RECON data set to an IMS V14 RECON data set format, as well as coexistence capability that enables IMS V12 and IMS V13 to use an IMS V14 RECON data set.
- Improved availability of ISC sessions on VTAM[(R)] connections through a new option that keeps the ISC VTAM session active after receiving an error recovery procedure (ERP) message.
- Improved usability of the IMS repository with the ability to autoexport resource definition changes to the IMSRSC repository, as well as the ability to show which IMS resources have been changed but have not yet been hardened to the repository.
- Easier diagnosis of problems with OTMA synchronous call-out processing through new message ID types in the X'6701' log records.
- Improved monitoring of IMS Common Queue Server (CQS) usage to help prevent overflow or structure full conditions.
- Enhancement of the IMS Database Image Copy 2 utility (DFSUDMT0) to automatically use zEDC services, if they are available and compression has been specified.
- Improved algorithms and more efficient instruction usage as well as a reduction in path length, contention, CPU time, and elapsed time, which all contribute to continued reduced total cost of ownership of the IMS product.

IMS V14 Value Unit Editions

IBM IMS Transaction Manager Value Unit Edition (VUE) V14 and IBM IMS Database Value Unit Edition V14 offer the base IMS product and optional for-charge features at a one-time-charge (OTC) price metric solely for eligible workloads. Eligible workloads are defined as net new applications or workloads that are deployed in qualified z Systems New Application License Charge (zNALC) logical partitions (LPARs). See your IBM representative for more information and additional terms.

To learn more about IMS products and tools, go to

> http://www.ibm.com/ims

Reference: Software Announcement 214-401, dated October 7, 2014

Key prerequisites

Certain functions in IMS V14 have the following prerequisites. See *IMS V14 Release Planning* for additional information on these and other prerequisites and dependencies.

- IBM z/OS running in z/Architecture[R] mode minimally on IBM z9[R] series
- Java[TM] Development Kit if Java Dependent Regions are used
- IRLM if data sharing is used
- IBM DB2
- IBM CICS[R]
- IBM MQ
- WebSphere Application Server for z/OS or WebSphere Application Server for distributed platforms
- COBOL if using native SQL functions

Refer to the Technical information section for details on required levels and to the Hardware requirements and Software requirements for all prerequisites.

Planned availability date

October 30, 2015

- IMS V14 (5635-A05)
- IMS Transaction Manager Value Unit Edition V14 (5655-TM3), with optionally orderable feature IMS Extended Terminal Option V14
- IMS Database Value Unit Edition V14 (5655-DSE)
- IMS Enterprise Suite V3.2 (5655-TDA)

Description

Easier application deployment and management

IMS DDL support with load from catalog

IMS V14 provides the option to use DDL to change IMS schemas in the catalog, enabling the capability to capitalize on DDL skills and tools in the marketplace. IMS V14 writes SMF records for these changes to provide an audit trail. Generation and editing of DDL, and submission to IMS are supported in IMS Explorer for Development, available in IMS Enterprise Suite. The IMS Universal JDBC using type-4 connectivity also supports the new DDL capabilities.

With IMS V14 you can also configure IMS to load application control blocks from the catalog instead of ACBLIB. These enhancements eliminate the need for PSBGEN, DBDGEN, and ACBGEN processes and managing the libraries associated with these processes. Use of the IMS catalog is still optional in IMS V14; the system generation processes and the PSBLIB, DBDLIB, and ACBLIB will continue to function as before.

The following IMS Tools support IMS managed ACBs:

IMS Cloning Tool V1.2 (5655-U91)

IMS Database Solution Pack V2.1 (5655-DSP)

- IMS DB Reorg Expert (5655-S35)
- IMS Online Reorg Facility
- IMS HP Unload (5655-E06)
- IMS HP Load (5655-M26)
- IMS Index Builder (5655-R01)
- IMS HP Prefix Resolution (5655-M27)
- IMS HP Image Copy (5655-N45)
- IMS HP Pointer Checker (5655-U09)
- IMS Library Integrity Utilities (5655-U08)
- HALDB Toolkit

IMS Library Integrity Utilities V2.2 (5655-U08)

Catalog Manager utility was added that ensures DBDs and PSBs in the IMS catalog are maintained correctly.

ODBM enhancement

IMS V14 provides an option to record information about the processing of database access requests by ODBM. It provides a log of all work handled by the ODBM address space so that accounting can issue charge-backs to users. ODBM leverages the z/OS System Management Facility (SMF) to perform logging of ODBM accounting information, such as CPU usage, and its retrieval.

Cascaded transaction support

IMS V14 now enables a global transaction using the IMS Transaction Manager Resource Adapter (TMRA) to be spread across IMS Connect and an IMS Control region that reside on different LPARs, increasing flexibility in IMS configuration across LPARs and enabling additional options for workload balancing. IMS Connect can route transactions to an IMS on another LPAR, enhancing availability and reliability. This is useful when the IMS on the same LPAR is unavailable. With this feature, fewer instances of IMS Connect may be needed to communicate with IMS systems on multiple LPARs, which can reduce cost. The enhanced support is available for distributed configurations (where TMRA leverages TCP/IP to connect to IMS Connect); support is not enhanced for TMRA running on z/OS and connecting to IMS Connect using the local port.

DL/I ICAL support for control data

The DL/I ICAL call is enhanced in IMS V14 to allow an additional parameter in the application call list to pass control data to IMS Connect and IMS Connect clients (IMS Connect user-written applications and IMS SOAP Gateway, which is part of IMS Enterprise Suite), as well as external servers. This control data parameter for ICAL can consist of multiple control data items. Because multiple PORT and OPERATION keywords can be specified in a WSDL file, an application can specify the port and the destination in the ICAL control data and dynamically route requests to preferred endpoints at runtime, providing greater flexibility and ease of use.

The enhancement delivers the following benefits:

- Eases callout endpoint processing for IMS SOAP Gateway messages
- Strengthens callout security
- Reduces the number of destination descriptors in the system due to unique converter names

Dynamic refresh of applications in WFI or PWFI regions

A new command enables you to terminate all instances of an application running as Wait for Input (WFI) or Pseudo Wait for Input (PWFI). The command can be issued to post programs scheduled in MPP PWFI regions, message-driven BMP regions, or JMP regions, or programs that are running with WFI=YES transactions. A new copy of the program is loaded the next time the program is scheduled. For region types supported by the UPD PGM command, this function eliminates manual effort to find all instances of the application and recycle the dependent regions in which the application is running, facilitating the rollout of application changes. The command output shows the regions where the program is scheduled and, once action is taken, the regions are available to do other work. The command is not supported for programs scheduled in IFP regions, non-message driven BMP regions, JBP regions, or MPP regions where the programs are preloaded in the DFSMPLxx member. It is also not supported for programs not scheduled in WFI or PWFI regions.

Enhancements in synchronous callout

IMS synchronous callout activity is recorded in the IMS logs by 6701 log records. These have been improved to offer a clearer understanding of the callout flows. Additionally, IMS V14 will include a COBOL sample application for Synchronous Program Switch that illustrates the use of the ICAL to synchronously invoke other IMS transactions.

SQL support enhancements

SQL support for COBOL application programs, which allows SQL calls in the native IMS host environment, was added in IMS V13. IMS V14 further enhances the functionality by supporting grouping (GROUP BY) and providing aggregate functions for SELECT statements. In this release, aggregate functions AVG, COUNT, MAX, MIN, and SUM are added. This support also applies to IMS Data Provider for Microsoft.NET applications.

Support for growing transaction and data volumes

Reduced usage of 24-bit storage for OSAM DEB control blocks

As the number of open database data sets that use the OSAM access method increases, so does the use of 24-bit storage. Consequently, a lack of 24-bit storage can limit the number of OSAM database data sets that can be opened. IMS V14 moves the storage used for the OSAM DEB extension to a separate 31-bit storage area, allowing growth of IMS databases in a single IMS by reducing the amount of 24-bit private storage used for each open data set. The amount of 24-bit storage that is saved is dependent on the number of extents and the size of the sector table. The DEB as defined by DFSMS continues to be allocated in 24-bit storage.

Up to 8 GB OSAM data set capacity for full-function HALDBs

This change enables you to increase OSAM HALDB partition data sets to 8 GB, increasing scalability for full-function databases. A new DBRC keyword is used to enable the 8 GB option and is supported by the DBRC API.

Note: When an OSAM HALDB is 8 GB-capable, the IMS HALDB online reorganization process cannot be run against that database.

The following IMS Tools support 8 GB OSAM HALDB databases:

IMS Cloning Tool V1.2 (5655-U91)

IMS Database Solution Pack V2.1 (5655-DSP)

All the utilities in the IMS Database Solution Pack and their equivalent standalone utilities support the new HALDB 8 GB OSAM database datasets:

- IMS DB Reorg Expert (5655-S35)
- IMS Online Reorg Facility
- IMS HP Unload (5655-E06)
- IMS HP Load (5655-M26)
- IMS Index Builder (5655-R01)
- IMS HP Prefix Resolution (5655-M27)
- IMS HP Image Copy (5655-N45)
- IMS HP Pointer Checker (5655-U09)
- IMS Library Integrity Utilities (5655-U08)
- HALDB Toolkit

Automatic SDEP buffer management

For users with unbalanced workloads, low-activity IMS systems can prevent more active IMS systems from reclaiming space for sequential dependent segments (SDEPs). To alleviate this issue prior to IMS V14, users must either take the area offline or run the SDEP Delete utility with the QUITCI option. IMS V14 provides a parameter for you to specify a threshold for SDEP buffer age. With the parameter set, IMS writes out any SDEP buffers over the specified age, alleviating the manual work required to prevent outages in these instances.

OTMA TPIPE parallelism

IMS V14 enables a single OTMA TPIPE to support multiple active RESUME TPIPEs. This architecture improves throughput and workload balancing and offers failover protection for both IMS callout applications and commit mode zero output. If the processing for any one RESUME TPIPE request becomes impaired, this parallel threading design enables OTMA to continue to deliver the output messages on the TPIPE through the other active RESUME TPIPE requests. The RESUME TPIPE request, or the TPIPE itself, is thus prevented from becoming a bottleneck for output messages from IMS.

Flood control for APPC transactions

High volumes of IMS transactions from APPC clients can exhaust 31-bit storage, causing abends. IMS V14 solves this problem by queuing transactions to 64-bit storage for later processing in these situations, helping to improve IMS availability.

IMS mobile enhancements

IMS V14 systems that have RACF security enabled in IMS Connect can now receive a unique IMS user ID and password for each IMS Connection Profile within each z/OS Connect server instance. This change eases z/OS Connect server configuration and allows for finer audit granularity for mobile workloads. The IMS user ID and password is specified using IMS Explorer for Development, which provides capabilities for creation and administration of mobile services managed through IMS Mobile Feature Pack. Both are components of IMS Enterprise Suite V3.2.

Greater agility through dynamic change

User exit enhancements

A new IMS Monitor exit (IMSMON) in IMS V14 provides a clearly differentiated programming interface (CDPI) for IMS users and vendors to use. This exit can be dynamically refreshed without restarting the IMS control region. Additionally, new type-2 commands enable you to reload the Automated Operator Interface user exit without restarting the IMS control region as well as query the type-2 AOI exit routine.

IBM Tivoli[(R)] OMEGAMON XE for IMS on z/OS V5.3 (5698-T02) will exploit the IMS V14 Monitor Exit. This enhancement can help provide a better maintenance experience and increased stability. This adoption of IMS Monitor Exit by OMEGAMON XE for IMS on z/OS allows for coexistence with other monitoring solutions using the new API for additional flexibility for your IMS monitoring needs.

IMS Connect command enhancements

In IMS V14, new type-2 IMS Connect commands are added and existing IMS Connect type-2 commands are enhanced so that users can modify certain IMS Connect configuration definitions dynamically, including creating and deleting IMSPlex definitions as well as deleting port and data store definitions. These enhancements can help improve overall IMS availability because a restart is no longer needed to create or update definitions during runtime. Additionally, some existing commands are enhanced to process synchronously so that the complete command result is returned in the command response instead of returning a partial result in multiple places. This architectural change can help improve usability.

IMS Connect Extensions V2.4 (5655-S56) supports the resource changes as the result of new IMS Connect type-2 commands. They are used by IMS Connect Extensions routing schemes and operations consoles. This includes:

• Add/Update/Delete Datastore

• Add/Update/Delete Port

• Add/Update/Delete IMSplex (report events only; CEX does not currently track or display IMSplex definitions)

IMS Connect Extensions Print utility now supports new IMS Connect extended event records 771-779 relating to dynamic resource changes.

The Internal Resource Usage report (IRUR) is enhanced in IMS Performance Analyzer V4.4 (5655-R03) to report on the new individual TCB statistics records (x'4518') added in IMS V14. This report provides performance-related information for individual IMS TCBs which may be aggregated in the x'450F' statistics. The IMS PA Transaction Index record (CA01) is updated to accommodate new fields in the x'07/x'56FA accounting segment.

IMS Problem Investigator V2.4 (5655-R02) now supports new event records added in IMS V14, as well as new IMS Connect extended event records 771-779 relating to dynamic resource changes. The new ODBM SMF statistics records can be viewed together with IMS log records.

IBM Transaction Analysis Workbench V1.3 (5697-P37) now supports new event records added in IMS V14. IBM Transaction Analysis Workbench supports changes to the IMS Performance Analyzer Transaction Index record (CA01) to accommodate new fields in the x'07/x'56FA accounting segment.

OTMA descriptor enhancements

IMS now allocates storage for only those OTMA descriptors that are defined rather than taking a fixed storage allocation at initialization time. Users who require more descriptors than were allowed in previous versions of IMS can now increase the maximum allowed number of descriptors that can be defined, while users who use fewer descriptors than the maximum allowable number will find that the OTMA descriptors use less ECSA storage. IMS V14 allows more descriptors than prior releases: a maximum of 4095 member descriptors and 4095 destination descriptors.

Improved enablement and management of MSC

IMS V14 makes enabling and managing MSC in an IMS system simpler. Users can now add or delete MSC resources dynamically, while the system is running, eliminating the prior need for a planned outage to perform this task. A new MSC execution parameter makes it possible to enable MSC without first defining MSC resources, which can benefit shared-queues environments. Additionally, MSC-

enabled systems use less 24-bit storage in IMS V14, because MSC modules and control blocks are now stored in 31-bit storage.

On the resource management side, IMS Configuration Manager V2.2 (5655-WR2) adds support for using dynamic MSC resources, introduced with IMS V14. You can import MSC resources from stage 1, as well as define and manage these resources using the IMS Configuration Manager ISPF dialog.

Increased dynamic change for Fast Path DEDBs

IMS V14 improves availability and scalability of Fast Path DEDBs by allowing more dynamic change. Users can now:

- Alter the SIZE, UOW, and ROOT parameters for DEDB databases that have sequential dependent segments (SDEPs) defined, all while the DEDB area remains accessible online
- Add one or more DEDB areas to the end of a DEDB database while the DEDB database remains online
- Take advantage of DEDB Alter support in FDBR and XRF environments that have their own ACB libraries (where ACBSHR=N)

Improved integration of IMS and DB2

Fast Database Recovery (FDBR) in-doubt thread support for ESAF

The External Subsystem Attach Facility (ESAF) supports the resolution of in-doubt work for an external subsystem during FDBR processing. IMS V14 provides a sample exit routine (DFSFIDN0) that issues messages that can be used by automation to resolve the in-doubt units of work. When FDBR recovers a failed IMS system, the DFSFIDN0 exit is given control for each in-doubt unit of work and is told whether the work should be committed or aborted. Automation can take the appropriate action on each unit of work. When DB2 is part of the unit of work, using DFSFIDN0 could reduce the time that DB2 holds locks during recovery.

ESAF subsystem definition enhancement

Users who use ESAF and IBM MQ or WebSphere Optimized Local Adapter (WOLA) now have a way to declare these subsystems on the subsystem type (SST) keyword in the SSM PROCLIB member. Commands and log records have also been updated to reflect the SST keyword values for these external subsystems. If the SSM PROCLIB member uses positional format instead of keyword format to specify parameters, the subsystem type defaults to DB2.

Infrastructure enhancements

User exit enhancements

A new IMS Monitor exit (IMSMON) in IMS V14 provides a clearly differentiated programming interface (CDPI) for IMS users and vendors to use. This exit can be dynamically refreshed without restarting the IMS control region. Additionally, new type-2 commands enable you to reload the Automated Operator Interface user exit without restarting the IMS control region as well as query the type-2 AOI exit routine.

DBRC REPAIR command for the RECON data set

IMS V14 offers an easy way to fix errors and inconsistencies in the RECON data set, which simplifies upgrading this data set between versions of IMS. Inconsistencies in the RECON DMB table record can occur and, in prior versions, could be fixed only during the RECON upgrade process. In IMS V14, a new DBRC REPAIR.RECON command is introduced to fix the RECON data set records, making migration to new IMS versions faster and making it possible to fix problems in the RECON data set records that occur after the upgrade process has been completed.

ISC VTAM enhancement for ERP messages

Before IMS V14, when an error recovery procedure (ERP) message was received by an IMS system via an ISC VTAM session, IMS kept the original message on the queue, closed the ISC session, and passed the ERP message to the master terminal operator (MTO). IMS V14 introduces a new parameter on the DFSDCxxx PROCLIB member that provides greater control over what IMS does with ISC sessions, improving the availability of ISC sessions on VTAM connections and aiding the diagnosis of ISC message errors by routing the error messages to wherever it is most convenient for IMS operators to receive them.

IMS repository enhancements

IMS V14 simplifies the management of new and changed resource definitions by allowing optional automatic export of these changes to the IMSRSC repository. This feature eliminates the need for users to issue EXPORT DEFN TARGET(REPO) commands. Additionally, IMS type-2 commands have been enhanced to support SHOW(EXPORTNEEDED) so users can easily determine which resource definitions have not been exported to the repository. The DFSURCL0 utility also supports the EXPORTNEEDED parameter, enabling users to create a nonsystem resource definition data set (RDDS) from the IMS log with only the resource definitions that have not been exported to the repository. Automatic export to the IMSRSC repository does not support deleted resource definitions; the DELETE DEFN command must be used to delete resource definitions.

OTMA enhancements

IMS V14 offers several other OTMA enhancements in addition to those already mentioned. Selected examples include:

- IMS OTMA support for RACF ENF provides for the automatic refreshing of cached user IDs when they are changed in RACF. This removes the requirement to issue the /SECURE OTMA REFRESH command.
- IMS OTMA can now provide connection authorization for OTMA clients using RACF without having to enable transaction and command security. This enables users to dictate which clients can access OTMA, even when they do not require authorization for the individual requests.
- IMS OTMA users can now increase the initial save area prefix (SAP) allocation for OTMA clients. This can aid in alleviating selective dispatching during busy periods.
- IMS conversations can currently be orphaned in OTMA if not properly terminated. The addition of the conversation identifier (CONVID) to the OTMATI command provides the information required to release the conversations with the /EXIT CONV command.
- The OTMA routing exits (DFSYPRX0/OTMAYPRX and DFSYDRU0/OTMAYDRU) can be used to route OTMA asynchronous output messages. These exits now have access to additional facilities because OTMA passes them the ECB address in the input parameter list that can be used to invoke system services. A flag in the input parameter is also set to indicate that the ECB address is present.
- The OTMA input/output edit user exit (DFSYIOE0/OTMAIOED) can be used to modify the length or data of a message segment or to cancel the segment or whole message. In versions prior to IMS V14, DFSYIOE0 was presented with the message segment and OTMA prefixes, but did not have access to the system prefixes. In IMS V14, the exit is passed a copy of the system prefixes in the input parameter list for the first segment of non-Fastpath output messages.

Improved monitoring of IMS Common Queue Server (CQS) usage

This enhancement provides monitoring tools with additional information about utilization of the IMS CQS coupling facility. This information can be used to take actions to avoid structure overflow and structure full conditions to help improve IMS and CQS availability in a sysplex environment.

Automatic support for zEnterprise Data Compression during image copy

In IMS V14, the IMS Database Image Copy 2 utility (DFSUDMT0) is enhanced to automatically use zEnterprise Data Compression (zEDC) services, if available and compression has been specified. The zEnterprise Data Compression support is a function of z/OS that provides better compression ratios compared to traditional software-based compression services and uses fewer CPU cycles.

Reduced total cost of ownership (TCO)

IMS V14 continues efforts to optimize IMS to run more efficiently, thereby helping to reduce CPU usage and total cost of ownership. Examples of functions delivered in this area are described below.

- Additional processing can now be eligible for execution on IBM z Systems™ zIIP Specialty Engines. See *IMS V14 Release Planning* for complete details.
- Program-to-program switch messages inserted from BMPs can now be selected for shared queues local-first processing.
- Less CPU time is now spent in the cancel timer request path in IMS Connect.
- A new 'quick path' in the Base Primitive Environment supervisor call improves OTMA callable interface performance.

Some of the functions mentioned in the Description section of this announcement may have additional requirements or coexistence APARs. See *IMS V14 Release Planning* for additional information.

Additional items from the service process

PL/I API in IMS runtime

IMS SOAP Gateway, part of IMS Enterprise Suite, and RD/z Enterprise Service Tools deliver support for top-down development of IMS web service providers with IMS transactional applications written in PL/I. The runtime APIs enable seamless transmission of SOAP structures and the SOAP message context between IMS Connect and the IMS PL/I transactional application. The runtime APIs are used by both the compiled SOAP converters in IMS Connect and the template program of the IMS PL/I transactional application. The PL/I API in the past has resided in RDz runtime and, via the IMS V12 service process, will now reside in IMS runtime for IMS V12 and later. Use of the PL/I runtime APIs minimally requires RDz V9.0.1.1 and IMS Enterprise Suite V3.1.

Callout transaction logging in IMS SOAP Gateway

In SOAP Gateway, callout transactions can now be logged in addition to provider transactions when transaction logging is enabled. This enhancement was made through the service process for IMS Enterprise Suite V3.1.1 and later.

Importing data structures into multiple DBD segments at once

Users can import data structures into multiple DBD segments in their IMS Explorer for Development projects all at once through IBM Rational(R) Asset Analyzer (RAA(R)). Importing data structures into multiple DBD segments in an IMS Explorer project requires RAA Version 6.1.0.6 or later. To import data structures into a single DBD, RAA is not required.

Exit for PSBNAME and DATA STORE name in an ACCRDB

Open database manager (ODBM) enables distributed and local access to IMS databases that are managed by IMS DB systems configured for either the DBCTL or the DB/TM environments in an IMSPlex. This APAR adds an ODBM user exit that allows the PSBNAME and DATASTORE name in an ACCRDB command (a distributed data management architecture command) to be modified before IMS member CSLDCxxx is processed. This enhancement applies to IMS V12 and later.

Data capture enhancement for replication

This enhancement adds options to capture DEDB subset pointer update information and unkeyed twin insert positioning information. The subset pointer support enables replication products to replicate subset pointer information in DEDBs so that this information can be used by applications on the replicated database to improve access performance. The twin insert information enables a replication product to position properly before inserting a non-unique keyed segment or unkeyed segment when inserted into the middle of a twin chain (and when unique data exists for all twins in the chain). The replication product can then keep the twins in the same order as the production database. This enhancement is being made through the IMS service process for IMS V13, and later.

Field (FLD) call support for replication

This enhancement adds an option to capture DEDB updates made by the DL/I FLD call and log the updates in a change capture log record. This change enables these updates to be leveraged by data replication solutions. This enhancement is being made through the IMS service process for IMS V13, and later.

Common Queue Server (CQS) batch delete

IMS V14 now allows you to specify how CQS should handle delete log records. When a locked object (an object that has been read from a CQS structure by CQSREAD) is deleted from a queue structure via a CQSDEL request, CQS constructs data that represents the object being deleted, but it only writes this data to its log periodically (delete record batching). Prior to this enhancement, when there is a CQS structure failure, and if CQS also fails and is not able to write its final batch delete log record, there may be previously deleted objects that are restored to the structure in locked status after the structure is rebuilt. For this situation, the status of any object that remains locked after CQS/client resync processing is in doubt. CQS moves these objects to the cold queue, where they must be manually examined and either unlocked or deleted. IMS V14 provides a new BATCHDEL parameter on the STRUCTURE keyword. When BATCHDEL is YES (the default), CQS handles delete log records as it always has. When BATCHDEL is NO, a CQS delete log record is written for every locked object passed on a CQSDEL call, such that the status of deleted objects is not in doubt when a structure is rebuilt. CQS will not restore any previously deleted objects to the rebuilt structure.

IBM IMS Tools

IMS Tools provide on-demand, application-specific, database management solutions. Designed to optimize data across your enterprise, IBM IMS Tools deliver the reliability and affordability you need to help increase the value of your IMS environment.

IMS Tools primarily deliver support and assistance in the following areas:

- Database administration and change management
- Utilities management
- Backup and recovery
- Performance management
- System and transaction management
- Data replication
- Testing and migration management
- Information governance

The IBM Tivoli OMEGAMON family of products can reduce the cost of enterprise-wide server monitoring and management with a flexible, intuitive user interface (UI) and improved information gathering and analytics capabilities.

The OMEGAMON family strives for day one currency of new releases of platform and middleware on z/OS. Doing so provides early adopters the security to rely on

the OMEGAMONs to manage businesses leveraging the new technology. IBM Tivoli OMEGAMON XE for IMS on z/OS V5.3.0 will have day one currency for IMS V14. This currency support will be delivered via PTF.

More information regarding IMS Information Management tools and IMS V14 compatibility is available on

http://www-01.ibm.com/support/docview.wss?uid=swg21694522

IBM zTools support

IBM makes concurrent announcements today for IBM zTools which highlight major enhancements with immediate support and exploitation of the new capabilities in IMS V14.

In addition, the following OMEGAMON XE releases provide immediate support for IMS V14:

- OMEGAMON XE for IMS on z/OS V510 and V530 with APAR OA48864

IBM Operations Analytics for z Systems 2.1 (IOAz) also provides support for IMS V14 to enable analytics and insight into IMS subsystems.

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld[R] ID and password are required (use IBM ID).

BP Attachment for Announcement Letter 215-405

Product positioning

IBM IMS is the data server of choice for enterprises that win by balancing performance with innovation, security with integration, and scalability with efficiency. Your IT shop did not start out as the cross-product multiplatform power plant that it is today. It took shape by responding to new market forces and transformed industries. The team of IT professionals who architected each iteration built an integrated and highly adaptive system that gives you a competitive advantage. With IBM IMS on z Systems at the heart of your IT, you can:

- Lead in the new app economy, shrinking time-to-market for mobile and cloud
- Respond in real time to the dynamic needs of the business
- Optimize system efficiency to reduce costs and grow availability

We can show you how.

- If you are a C-level Executive - Strategic vision, business growth, technological innovation, cost management, and security are just some of your responsibilities. IBM IMS helps you meet these objectives by delivering solutions that promote the innovation your business needs to fuel growth on a platform unmatched in scalability, availability, and security.
- If you are a System Programmer - Installation, configuration, and day-to-day management of the IT infrastructure is your responsibility. IBM IMS helps you master these tasks by delivering new dynamic configuration capabilities that eliminate outages and increase availability.
- If you are an Application Developer - Bridging systems of record to robust applications that work across platforms and devices is your area of expertise. IBM IMS helps you succeed by shrinking the time-to-market for new cloud and mobile applications.

This announcement confirms that IBM IMS is committed to your success; its DNA is built on time-tested hallmarks of performance, scalability, security, availability, and resiliency. When it comes to running core applications that are at the heart of business processing, enterprises worldwide continue to depend on IMS.

Hardware and software support services

SmoothStart/installation services

IBM Installation Services are provided for IMS by IBM Global Services or your IBM Business Partner at an additional cost. For additional information, contact your IBM representative and ask for Installation Services for IMS.

Additional technical services (planning and migration assistance, performance tuning, and other services) can be obtained through the Worldwide IMS Product Affinity Services team. For more information, contact the team at dmservices@us.ibm.com.

Program number

Program identification number	VRM	Program name
5635-A05	14.1.0	IBM Information Management System
5655-TM3	14.1.0	IBM Information Management System Transaction Manager Value Unit Edition
5655-DSE	14.1.0	IBM Information Management System Database Value Unit Edition
5655-TDA	3.2.0	IBM Information Management System Enterprise Suite

Program identification number (PID)	Subscription and Support PID
5655-TM3	5655-TMS
5655-DSE	5655-DSR
5655-TDA	5655-T61

Plant of Control and Plant of Manufacture

Plant of Control:	Boulder
Plant of Manufacture:	Boulder

Technical information

Specified operating environment

Hardware requirements

Processors: All IMS V14 products operate on processors capable of running z/OS V2.1, or later.

Additional line-item requirement information is provided in the *IMS V14 Release Planning* publication.

Hardware requirements for IMS ES V3.2

See the Explorer for Development download page for the required version of Installation Manager.

For functions that are to run on z/OS, IBM IMS Enterprise Suite for z/OS V3.2 (5655-TDA) operates on any hardware configuration that supports 64-bit IBM processors that are capable of running the required IBM z/OS versions that support IMS V12, V13, or V14.

Software requirements

Software requirements for IMS V14

IMS V14 operates under z/OS V2.1 configurations, or subsequent versions, releases, and modification levels, unless otherwise stated, and requires the following minimum version, release, or modification levels:

- z/OS V2.1 (5650-zOS) or later running in z/Architecture mode minimally on IBM z9 series or newer processors
- Java Development Kit (JDK) 7, or later, if using Java Dependent Regions
- IRLM V2.3 (5635-A05) or later if data sharing is used; IRLM is delivered with IMS V14
- IBM DB2 V10 (5605-DB2), or later
- IBM CICS V4.1 (5655-S97), or later
- IBM MQ V7.0.1 (5724-H72), or later
- WebSphere Application Server for z/OS (5655-W65) or WebSphere Application Server for distributed platforms (5724-J08), V8.0.0 or later
- RACF (included in a separately orderable Security Server feature of z/OS V2.1), or equivalent, if security is used
- IBM High-Level Assembler Toolkit, a separately orderable feature of z/OS V2.1
- COBOL V5.1, or later, if using IMS SQL support for COBOL application programs

Note:

- The use of zEnterprise Data Compression services by the IMS Database Image Copy utility (DFSUDMT0) is dependent on the installation of DFSMSdss APAR OA42238 (PTF UA74782) in z/OS V2.1.

IMS V14 also operates in a virtual machine under control of z/OS V2.1 and is intended for use in a customer program development, testing, and non-XRF production environment, with some restrictions.

Additional line-item requirement information is provided in the IMS V14*Release Planning*publication.

IMS V14 DB can be connected using the appropriate interface to IMS V14 TM (5635-A05), CICS Transaction Server for z/OS V4.1, or later, WebSphere Application Server V8.5, or later, DB2 for z/OS V10, or later, and user-written software.

IMS 14 VUE can be connected using the appropriate interface to IMS V14 TM (5635-A05), or later, IMS V14 DB (5635-A05), or later, CICS Transaction Server for z/OS V4.1, or later, WebSphere Application Server V8.5, or later, DB2 for z/OS V10, or later, and user-written software.

The IMS Extended Terminal Option (ETO) feature requires the IMS TM feature.

The IMS Remote Site Recovery (RSR) Record Level Tracking (RLT) feature requires either the IMS TM or the IMS DB feature.

The IMS RSR Database Level Tracking (DLT) feature requires the IMS RSR RLT and IMS DB features.

IMS V14 is written in High Level Assembler, PL/X, C, C++, and JDK Version 7.

Software requirements for IBM IMS Enterprise Suite V3.2

Mandatory installation requirements:

- Components that are installable on z/OS are part of IBM IMS Enterprise Suite for z/OS V3.2 (5655-TDA) and require IBM z/OS, V1.13 (5694-A01), or later.
- Additionally, IMS SOAP Gateway and IMS Mobile Feature Pack require IBM Installation Manager for z/OS V1.8.3 or later. Order IBM Installation Manager for z/OS V1.4 PID 5655-IMZ, and apply maintenance to upgrade to a minimum of V1.8.3 (PTF UI28795).
- IMS Explorer for Development can be installed on Microsoft Windows™ 7 or 8. IMS Explorer for Development can be downloaded from

    http://www.ibm.com/ims

See the Explorer for Development download page for the required version of Installation Manager.

For platforms and installation information about IMS Enterprise Suite components not specifically named above, see the Downloads tab at

   http://www.ibm.com/ims

For functions that are to run on z/OS, IBM IMS Enterprise Suite for z/OS, V3.2 (5655-TDA) operates on any hardware configuration that supports 64-bit IBM processors that are capable of running the required IBM z/OS versions that support IMS V12, V13, or V14.

Mandatory operational requirements:

The components of IMS Enterprise Suite operate with IMS V12 (5635-A03), IMS V13 (5635-A04), and IMS V14 (5635-A05) and their equivalent Value Unit Editions. IMS Data Provider for Microsoft.NET operates with IMS V13 and V14.

Additional operational requirements for each component are:

- IMS SOAP Gateway and IMS Connect API for Java operate with Java 7. See the Preventive Service Planning information for the most up-to-date information on the required fix pack.
- IMS Explorer for Development operates with Java 8. The required release is bundled with the program.
- The IMS Mobile Feature Pack component of IBM IMS Enterprise Suite for z/OS V3.2 operates with:
    - IMS Explorer for Development V3.2
    - Java Runtime Environment (JRE) V7 or V8
    - WebSphere Application Server for z/OS Liberty Profile V8.5.5.7 (5655-W65) with optionally installable feature z/OS Connect

Note:

- A limited-use copy of WAS for z/OS Liberty Profile is bundled with IMS Mobile Feature Pack when the Mobile Feature Pack is ordered as part of IMS Enterprise Suite for z/OS (5655-TDA) from Shopz. See the IMS Enterprise Suite V3.2 license file provided with the program for terms.
- Users who have purchased WebSphere Application Server for z/OS can download the IMS Mobile Feature Pack directly from the WebSphere Liberty Profile repository. For more information see

    https://developer.ibm.com/wasdev/downloads/

Deprecations

IMS

- IMS V12 is the last release to support the Multiple Area Data Sets I/O Timing function.
- Support for IMS XML DB is discontinued in IMS V14. IMS V12 is the last release to support XML DB; support in IMS V13 ends when IMS V12 is withdrawn from service and support.
- IMS V13 is the last release to support Full Function XRF with Data Sharing. Use shared queues with FDBR going forward.

IMS V14 is the last release to support:

- The Remote Site Recovery (RSR) feature. Disaster recovery alternatives to RSR include:

  - IBM InfoSphere[(R)] Data Replication for IMS for z/OS
  - IBM Geographically Dispersed Parallel Sysplex[TM] (GDPS[(R)]) solutions
- The ability to define the LOCAL and SSL ports in the IMS Connect configuration. After IMS V14, IMS Connect will leverage AT-TLS instead of System SSL and TCP/IP will be used instead of the LOCAL option.
- Message Format Service SOA support; users should move to using IBM Rational Host On Demand going forward.

IMS Enterprise Suite

IMS Enterprise Suite V3.1 and V3.1.1 are the last releases in which SOAP Gateway can be installed on platforms other than z/OS; IMS Enterprise Suite V3.1 and V3.1.1 are also the last releases for SOAP Gateway to support the processing of business events data and the one-thread-per-connection-bundle thread management policy for callout request processing.

IMS Enterprise Suite V3.1.1 is the last release in which Java for z/OS is bundled with the IMS Enterprise Suite for z/OS Base Services FMID. Users should refer to the IMS Enterprise Suite V3 Preventive Service Planning information for the minimum supported version of Java with IMS Enterprise Suite, then download Java for z/OS from

  http://www.ibm.com/systems/z/os/zos/tools/java/

IMS Enterprise Suite for z/OS V3.1.1 is the last release in which the Installation Manager for z/OS will ship automatically with the offering. Installation Manager for z/OS remains a prerequisite for IMS Enterprise Suite V3.2. See the Software requirements for more information.

IMS Enterprise Suite V3.1 is the last release to support IMS Connect API for C. Users should use IMS Connect API for Java going forward.

Compatibility

IMS V14 is upwardly compatible from previous versions, allowing existing applications and data to be used without change. Migration and coexistence support is provided for IMS V12 and IMS V13. For the latest details review the Preventive Service Planning (PSP) information on

  http://www14.software.ibm.com/webapp/set2/psearch/search?domain=ps

User group requirements

This announcement satisfies or partially satisfies the following IMS requirements from one or more of the worldwide user group communities or clients.
The following requirements are satisfied or partially satisfied by IMS V14:
RFE 29572 - IMS repository support for automatic export
RFE 29712 - OTMA TPIPE queue depth monitoring

This announcement satisfies or partially satisfies the following IMS requirements from one or more of the worldwide user group communities or clients.

RFE 30895 - Provide 8 GB OSAM for IMS HALDB databases
RFE 31033 - DEDB Alter add AREAs
RFE 32068 - Parameter for initial number of OIM TCB SAPs
RFE 32757 - List of definitions not yet exported to repository at shutdown
RFE 32772 - APPC flood protection
RFE 32866 - Support for RACF ENF notifications that indicate a change has been made to a user ID cached in the IMS CTLREG
RFE 33312 - OIM selective dispatching
RFE 33324 - MQSeries$^{(R)}$ systems using the ESSI I/F of IMS
RFE 33329 - IMS OTMA exits called in Itask environment
RFE 34353 - Provide a pointer to IMS internal prefix in OTMA exit DFSYIOE0
RFE 35607- Lack of DEDB FLD call data capturing for InfoSphere IMS Replication
RFE 35707 - Allow a Global Transaction to be spread across multiple IMS Connect and IMS Control region on different LPARs
RFE 35739 - IMS abend 483-04c
RFE 36117 - DEDB SSP (subset pointer) should be supported by IMS replication
RFE 36266 - Alternate ISC logic (ISC VTAM enhancement for ERP messages)
RFE 36274 (partial) - Ability to refresh all IMS user exits
RFE 36294 - Command for programs on PWFI regions to be refreshed
RFE 36298 - Provide ability to activate OTMA client bid security independently from transaction/command security
RFE 36301 - Add a command to force refresh of user programs copy in a region
RFE 36745 - Current algorithm for dynamic allocation of concatenated ACBLIB data sets needs to be modified
RFE 38557 - An exit that allows the PSBNAME and DATA STORE name in a ACCRDB command to be modified before CSLDCXXX processing
RFE 38675 - Display message DFS3262 with error information "E" instead of "I"
RFE 39975 - XRF/FDBR ACBSHR=N option for DEDB Alter is requisite
RFE 43561 - IMS catalog and copybooks require outage
RFE 45185 - IMS application program refresh
RFE 45342 - IMS SQ structure overflow protection
RFE 53398 - Raise the limit of OTMA descriptors
RFE 54524 - IMS IVP dialog - remove obsolete data sets
RFE 54598 - OTMA reroute wastes CPU
RFE 55360 - IMS concurrent image copies should use zEDC accelerators
RFE 62511 - IMS and CQS should manage the case when MSGQ messages can be found to be "in-doubt" at IMS CQS restart + structure rebuild
MR062512687 (partial) - IMS sync callout: Need to be able to support a control data area on ICAL
MR0817095222 - More autonomic management of SDEP buffers in the subsystems sharing in an IMS Sysplex
MR0927046132 - Add/Delete datastore with IMS MR062512687 - IMS synchronous callout needs to be able to support a control data area on ICAL call so that control info, such as PORT and operation in WSDL, can be specified to allow IMS callout to external server on different endpoint.
zBLC # PLAC0707-1082 - FDBR for DB2 or similar: Need to solve in-doubt locks quickly
zBLC #ILAC0711-1424 Command for programs on PWFI regions to be refreshed
zBLC #PRBC0410-1331 SDEP Buffer Autonomic Management
The following requirements are satisfied or partially satisfied by IMS Enterprise Suite for z/OS V3.2:
RFE 42198 - IMS Catalog Utility to include enhanced metadata.
RFE 35912 - SOAP Gateway should have higher traceability function than the current one.
RFE 35913 - Need more detail AIBERRXT code about ICAL error
RFE 33490 - IMS Explorer: Overwritten Field Aliases
RFE 32752 - Flexible URL for Web Service Callout with IMS SOAP Gateway
RFE 54610 - IMS Connect JAVA API Support on Linux^{TM}
RFE 60874 - IMS Explorer to remove requirement for Admin rights during installation

RFE 53400 - Allow overrides of WSDL
RFE 33303 - IMS SOAP Gateway support of multiple endpoint

Security, auditability, and control

The announced program uses the security and auditability features of the host hardware or operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

Ordering z/OS through the Internet

Shopz provides an easy way to plan and order your z/OS ServerPac or CBPDO. It will analyze your current installation, determine the correct product migration, and present your new configuration based on z/OS. Additional products can also be added to your order (including determination of whether all product requisites are satisfied). Shopz is available in the US, Canada, and several countries in Europe. In countries where Shopz is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the Shopz website

http://www.ibm.com/software/ShopzSeries

New licensees

Orders for new licenses can be placed now.

Registered customers can access IBMLink for ordering information and charges.

Shipment will not occur before the availability date.

Unless a later date is specified, orders entered before the planned availability date will be assigned a schedule date of one week following availability.

Unless a later date is specified, an order is scheduled for the week following order entry.

New users of IMS V14 should specify:

Type: 5635
Model: A05

CFSW configuration and order entry capability are available.

Eligible for Country Multiplex License Charge (CMLC) pricing metric

For more information regarding CMLC see Software Announcement 215-230, dated July 28, 2015.

Parallel Sysplex license charge (PSLC) basic license
IBM Customer Agreement (ICA)

To order a basic license, specify the program number and quantity of MSU.

If there is more than one program copy in a Parallel Sysplex[R], the charge for all copies is associated to one license by specifying the applicable PSLC license options and quantity represented by the sum of the MSUs in your Parallel Sysplex.

For all other program copies, specify the System Usage Registration No-Charge (SYSUSGREG NC) Identifier on the licenses.

Program name: Information Management System V14

Program PID: 5635-A05

Element Identifier	Description	Licensing option/ Pricing metric
S017K88	IMS Database Mgr V14	Basic MLC, PSLC
S017K89	IMS DB-Lvl Tracking V14	Basic MLC, PSLC
S017K8B	IMS Extended Term Opt V14	Basic MLC, PSLC
S017K8C	IMS Recov Lvl Track V14	Basic MLC, PSLC
S017K8D	IMS Transaction Mgr V14	Basic MLC, PSLC

Orderable supply ID	Language	Distribution medium	Description
S017T7N	US English	CST3590-128T	IMS V14 Extended Terminal Op, ENU
S017T7P	US English	CST3590-128T	IMS V14 DB-Level Tracking, ENU
S017T7S	US English	CST3590-128T	IMS V14 Database Manager, ENU
S017T7R	US English	CST3590-128T	IMS V14 TM, ENU
S017T7T	US English	CST3590-128T	IMS V14 RLT, ENU

International Program License Agreement

The IMS Transaction Manager and Database Manager offerings have one charge unit - Value Units

Program number	Program name	Value unit exhibit
5655-TM3	IBM IMS Transaction Manager Value Unit Edition	VUE001
5655-DSE	IBM IMS Database Manager Value Unit Edition	VUE001

Program name: IBM IMS Transaction Manager Value Unit Edition V14

Program PID: 5655-TM3

Entitlement identifier	Description	License option/ Pricing metric
S017VBL	IMS ETO Value Unit Edition V14	Basic OTC, Value Units, Per MSU-day

Orderable supply ID	Language	Distribution medium
S017VBJ	US English	3590 Tape cartridge

Entitlement identifier	Description	License option/ Pricing metric
S017VBK	IMS Transaction Manager V14 Value Unit Edition	Basic OTC, Value Units, Per MSU-day

Orderable supply ID	Language	Distribution medium
S017VBH	US English	3590 Tape cartridge

Subscription and Support

Subscription and Support PID: 5655-TMS

International Attachment for Support (IASP)

Entitlement identifier	Description	License option/ Pricing metric
S017K45	IMS ETO Value Unit Edition SW S&S	Basic ASC, per Value Unit SW S&S

Entitlement identifier	Description	License option/ Pricing metric
		No Charge, decline SW S&S
		Per MSU SW S&S Registration

Orderable supply ID	Language	Distribution medium
S017K41	US English	Hardcopy publication

Entitlement identifier	Description	License option/ Pricing metric
S017K13	IMS Transaction Manager Value Unit Edition SW S&S	Basic ASC, per Value Unit SW S&S
		No Charge, decline SW S&S
		Per MSU SW S&S Registration

Orderable supply ID	Language	Distribution medium
S017K0V	US English	Hardcopy publication

Program name: IBM IMS Database Manager Value Unit Edition V14

Program PID: 5655-DSE

Entitlement identifier	Description	License option/ Pricing metric
S017RX6	IMS Database Manager V14 Value Unit Edition	Basic OTC, Value Units, Per MSU-day , TUC

Orderable supply ID	Language	Distribution medium
S017RX5US	US English	3590 Tape cartridge

Subscription and Support

Subscription and Support PID: 5655-DSR

International Attachment for Support (IASP)

Entitlement identifier	Description	License option/ Pricing metric
S017864	IMS Database Manager Value Unit Edition SW S&S	Basic ASC, per Value Unit SW S&S
		No Charge, decline SW S&S
		Per MSU SW S&S Registration

Orderable supply ID	Language	Distribution medium
S017863	US English	Hardcopy publication

Program name: IBM IMS Enterprise Suite for z/OS V3.2

Program PID: 5655-TDA

Basic license

To order, specify the program product number and the appropriate license or charge option. Also, specify the desired distribution medium. To suppress shipment of media, select the license-only option in CFSW.

Entitlement identifier	Description	License option/ Pricing metric
S0179JS	IMS Enterprise Suite for z/OS V3.2	No Charge, Unlimited Installs

Orderable supply ID	Language	Distribution medium
S0179JR	US English	3590 Tape cartridge

Subscription and Support

Subscription and Support PID: 5655-T61

Entitlement identifier	Description	License option/ Pricing metric
S015NCC	IMS Enterprise Suite for z/OS V3.2 SW S&S	No Charge, Unlimited Installs
		SW S&S Reg, No Charge

Orderable supply ID	Language	Distribution medium
S015NC9	US English	Hardcopy publication

Build to Plan = No

Build to Order = Yes

Dual-pipe = No

These IPLA products will be made available in the ESW pipe.

For more ordering information, refer to Software Announcements:

- 214-401, dated October 7, 2014
- 214-266, dated May 20, 2014
- 213-394, dated October 1, 2013

Advanced Workload License Charges (AWLC) basic license

The AWLC pricing metric leverages the reporting mechanisms and existing MSU per hour tiers of the Variable Workload License Charges (VWLC) pricing model while extending the software price/performance provided by the VWLC tiers. For details, refer to Software Announcement 210-238, dated July 22, 2010.

Program name: Information Management System V14

Program PID: 5635-A05

Entitlement identifier	Description	License option/Pricing metric
S017K88	IMS Database Mgr V14	Basic MLC, AWLC
S017K89	IMS DB-Lvl Tracking V14	Basic MLC, AWLC
S017K8B	IMS Extended Term Opt V14	Basic MLC, AWLC
S017K8C	IMS Recov Lvl Track V14	Basic MLC, AWLC
S017K8D	IMS Transaction Mgr V14	Basic MLC, AWLC

Advanced Entry Workload License Charges (AEWLC) basic license

The AEWLC pricing metric leverages the reporting mechanisms and existing Millions of Service Units per hour (MSU) tiers of the Entry Workload License Charges (EWLC) pricing metric while extending the software price/performance provided by EWLC and MWLC. For details, refer to Software Announcement 211-250, dated July 12, 2011.

Program name: Information Management System V14

Program PID: 5635-A05

Entitlement identifier	Description	License option/Pricing metric
S017K88	IMS Database Mgr V14	Basic MLC, AEWLC
S017K89	IMS DB-Lvl Tracking V14	Basic MLC, AEWLC
S017K8B	IMS Extended Term Opt V14	Basic MLC, AEWLC

Entitlement identifier	Description	License option/Pricing metric
S017K8C	IMS Recov Lvl Track V14	Basic MLC, AEWLC
S017K8D	IMS Transaction Mgr V14	Basic MLC, AEWLC

Workload License Charge (WLC) basic license

If there is more than one program copy in a Parallel Sysplex, the charge for all copies is associated to one license by specifying the applicable WLC license options and quantity represented by the sum of the Service Units in Millions (MSUs) in your Parallel Sysplex. For all other program copies, specify the Workload Registration Variable WLC Identifier on the licenses.

Program name: Information Management System V14

Program PID: 5635-A05

Entitlement identifier	Description	License option/Pricing metric
S017K88	IMS Database Mgr V14	Basic MLC, V-WLC
S017K89	IMS DB-Lvl Tracking V14	Basic MLC, V-WLC
S017K8B	IMS Extended Term Opt V14	Basic MLC, V-WLC
S017K8C	IMS Recov Lvl Track V14	Basic MLC, V-WLC
S017K8D	IMS Transaction Mgr V14	Basic MLC, V-WLC

Entry Workload License Charge (EWLC) basic license

To order a basic license, specify the program number and the quantity of MSUs.

To order EWLC software, specify the program number and the EWLC monthly charge feature number from the following table. Also, specify the feature number for the desired distribution medium.

Program name: Information Management System V14

Program PID: 5635-A05

Entitlement identifier	Description	License option/Pricing metric
S017K88	IMS Database Mgr V14	Basic MLC, EWLC
S017K89	IMS DB-Lvl Tracking V14	Basic MLC, EWLC
S017K8B	IMS Extended Term Opt V14	Basic MLC, EWLC
S017K8C	IMS Recov Lvl Track V14	Basic MLC, EWLC
S017K8D	IMS Transaction Mgr V14	Basic MLC, EWLC

S/390 and z Systems Usage License Charge basic license

Specify the applicable S/390$^{(R)}$ and System z$^{(R)}$ Usage License Charge option. Charges will be based upon the Peak MSUs. Usage reported between thresholds of features 1, 2, or 3 will be rounded up to the next MSU level. Above 1.0 MSU, usage will be rounded to the nearest whole MSU. For example, 2.4 MSUs would round to 2.0 MSUs for pricing, and 2.5 MSUs would round to 3.0 MSUs for pricing.

Program name: Information Management System V14

Program PID: 5635-A05

Entitlement identifier	Description	License option/Pricing metric
S017K88	IMS Database Mgr V14	Basic MLC, ULC
S017K89	IMS DB-Lvl Tracking V14	Basic MLC, ULC
S017K8B	IMS Extended Term Opt V14	Basic MLC, ULC
S017K8C	IMS Recov Lvl Track V14	Basic MLC, ULC

Entitlement identifier	Description	License option/Pricing metric
S017K8D	IMS Transaction Mgr V14	Basic MLC, ULC

Growth opportunity license charge (GOLC)

To order a basic license, specify the program number and the correct level. Specify the GOLC monthly charge feature number from the following table.

Program name: Information Management System V14

Program PID: 5635-A05

Entitlement identifier	Description	License option/pricing metric
S017K88	IMS Database Mgr V14	Basic MLC, GOLC
S017K89	IMS DB-Lvl Tracking V14	Basic MLC, GOLC
S017K8B	IMS Extended Term Opt V14	Basic MLC, GOLC
S017K8C	IMS Recov Lvl Track V14	Basic MLC, GOLC
S017K8D	IMS Transaction Mgr V14	Basic MLC, GOLC

Also, specify the feature number for the desired distribution medium.

z Systems entry license charge (zELC)

To order zELC software, specify the program number and the zELC Processor Group.

Specify the zELC monthly charge feature number. Also, specify the feature number for the desired distribution medium.

Specify the zELC monthly license option.

Program name: Information Management System V14

Program PID: 5635-A05

Entitlement identifier	Description	License option/ Pricing metric
S017K88	IMS Database Mgr V14	Basic MLC, zELC
S017K89	IMS DB-Lvl Tracking V14	Basic MLC, zELC
S017K8B	IMS Extended Term Opt V14	Basic MLC, zELC
S017K8C	IMS Recov Lvl Track V14	Basic MLC, zELC
S017K8D	IMS Transaction Mgr V14	Basic MLC, zELC

Single version charging

To elect single version charging, the customer must notify IBM and identify the prior program and replacement program and the designated machine the programs are operating on.

Basic machine-readable material

Orderable Supply ID	Language	Distribution medium	Description
S017K85	US English	CST3590-128T	IMS V14 Extended Terminal Op, ENU
S017K87	US English	CST3590-128T	IMS V14 DB-Level Tracking, ENU
S017K83	US English	CST3590-128T	IMS V14 Database Manager, ENU
S017K84	US English	CST3590-128T	IMS V14 TM, ENU
S017K86	US English	CST3590-128T	IMS V14 RLT, ENU

Unlicensed documentation

Softcopy publications are available from the IBM Knowledge Center

http://www.ibm.com/support/knowledgecenter/SSEPH2/welcome

PDF files of the IMS V14 publications will also be available for download from the IMS V14 library page

http://www.ibm.com/support/docview.wss?uid=swg27046437

PDF files of the IMS V14 publications are also available from the IBM Publications Center

http://www.ibm.com/shop/publications/order

The PDF files of the IMS documentation are updated less frequently than the IMS documentation in the IBM Knowledge Center.

Document title	Order number	Availability date
IMS V14 Program Directory	GI10-8988-01	October 30, 2015
IMS V14 TM VUE Program Directory	GI13-4601-00	October 30, 2015
IMS V14 DB VUE Program Directory	GI13-4602-00	October 30, 2015
IMS Enterprise Suite V3.2 Program Directory	GI10-8964-02	October 30, 2015

Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

Customized Offerings

Product deliverables are shipped only via CBPDO and ServerPac. These customized offerings are offered for Internet delivery in countries where Shopz product ordering is available. Internet delivery reduces software delivery time and allows you to install software without the need to handle tapes. For more details on Internet delivery, refer to the Shopz help information on

http://www.software.ibm.com/ShopzSeries

You choose the delivery method when you order the software. IBM recommends Internet delivery. In addition to Internet and DVD, the supported tape delivery options include:

- 3590
- 3592

Most products can be ordered in ServerPac the month following their availability in CBPDO. z/OS can be ordered via CBPDO and ServerPac at general availability. Many products will also be orderable in a Product ServerPac without also having to order the z/OS operating system or subsystem.

Shopz and CFSW will determine the eligibility based on product requisite checking. For more details on the product ServerPac, visit the Help section on the Shopz website on

http://www.software.ibm.com/ShopzSeries

For additional information on the Product ServerPac option, refer to Software Announcement 212-272, dated July 31, 2012.

Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after general availability.

Terms and conditions

Agreement

IBM Customer Agreement

Terms and conditions for IBM IMS Transaction Manager Value Unit Edition V14

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage(R) Agreement, and IBM Agreement for Acquisition of Software Maintenance.

Licensing

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

Agreement for Acquisition of Software Maintenance

The following agreement applies for Software Subscription and Support (Software Maintenance) and does not require customer signatures:

- IBM Agreement for Acquisition of Software Maintenance (Z125-6011)

IMS TM is the IBM program*Information Management System Transaction Manager,* licensed under the IBM Customer Agreement (or equivalent agreement between Licensee and IBM). IMS TM is a separately available program from IBM and is not to be confused with *IMS Transaction Manager Value Unit Edition*(IMS TM VUE).

IMS ETO is the IBM program*Information Management System Extended Terminal Option,* licensed under the IBM Customer Agreement (or equivalent agreement between Licensee and IBM). IMS ETO is a separately available program from IBM and is not to be confused with *IMS Extended Terminal Option Value Unit Edition*(IMS ETO VUE).

Licensee's license authorizes use of the program only in a validly licensed System z New Application License Charge (zNALC) LPAR for Eligible Workloads.[1]

The workload must be a net new z/OS workload deployed in a zNALC LPAR at the time of licensing this program, and not an existing z/OS workload that a) is transferred or migrated to the zNALC LPAR from z/OS elsewhere in the Enterprise or b) is already deployed in a zNALC LPAR within the Enterprise. For example, an existing z/OS workload that would be or has been shifted across a border from one country to another, or from one data center to another, or that has been renamed or rewritten does not qualify as an Eligible Workload. Workloads that are migrated from non-z/OS sources, such as Linux, UNIX[TM], or Windows, may qualify as Eligible Workloads.

A Java workload executing within the program's JVM runtime environment will be considered to be a "Qualified Application," on condition that the Java workload has been qualified and approved through the zNALC qualification process[1] as eligible to run in a zNALC LPAR.

In the case of an outsourcing company that may take up the operation of the programs for its customers and become the licensee of such programs, the term "Enterprise" refers in all cases to the enterprise of the outsourcing company's customers and not to the outsourcing company itself.

Notwithstanding anything else in the IPLA, Licensee is authorized to have copies of the program in support of Licensee's authorized use only:

a) If qualified to be deployed on a single machine, in any zNALC LPARs in which the Eligible Workload is deployed for use, or

b) If qualified to be deployed within a Qualified Sysplex[2], in any zNALC LPARs in which the Eligible Workload is deployed for use.

In addition, Licensee may make a backup copy. If Licensee wishes to deploy a copy of the program in any other separate zNALC environment, Licensee must acquire another license to the program with its own separate entitlements.

IBM has the right to audit all machines and Qualified Sysplexes on which the program is installed to ensure compliance with all the terms of this license and the zNALC terms and conditions.

Maintenance/support fixes provided for IMS TM or IMS ETO may not be applied to the program. Separately available Subscription and Support for the program must be acquired in order to obtain support for the program.

The program requires Licensee to indicate acceptance of the terms of this license at installation time.

[1] Eligible Workload is a workload that includes the program, where the program has been approved by IBM as a "Qualified Application" and approved through the zNALC qualification process as eligible to run in a zNALC LPAR. See the Attachment for zNALC License Charges on IBM System z (US form number Z125-7454) for more information.

[2] A "Qualified Sysplex" means a Parallel Sysplex in which z/OS is eligible for aggregated zNALC charges as described in the Charges section of the Attachment for zNALC License Charges on IBM System z (US form number Z125-7454).

Charges for IMS TM VUE and IMS ETO VUE are based on Value Unit entitlements.

Calculation of Value Unit entitlements for the IMS TM VUE program

For IMS TM VUE programs that will be deployed for use on a single machine not part of a Qualified Sysplex, the Value Unit entitlement will be determined as follows:

1. There will be a calculation of the number of Value Units which would equate to the total sum of the MSUs for any copies of IMS TM VUE on the machine, and the MSUs for all instances of the version of IMS TM that matches the version of IMS TM VUE (that is, only where the version of IMS TM of such instances is the same as the version of IMS TM VUE) on that machine.
2. There will be a calculation of the number of Value Units which would equate to the MSUs for all instances of the version of IMS TM that matches the version of IMS TM VUE (that is, only where the version of IMS TM of such instances is the same as the version of IMS TM VUE) on the machine.
3. The number of required IMS TM VUE Value Unit entitlements will be the Value Units calculated in (1) minus the Value Units calculated in (2).

For IMS TM VUE programs that will be deployed for use in a Qualified Sysplex, the Value Unit entitlement will be determined as follows:

1. There will be a calculation of the number of Value Units which would equate to the total sum of the MSUs for any copies of the IMS TM VUE in the Qualified Sysplex, and the MSUs for all instances of the version of IMS TM that matches

the version of IMS TM VUE (that is, only where the version of IMS TM of such instances is the same as the version of IMS TM VUE) in the Qualified Sysplex.

2. There will be a calculation of the number of Value Units which would equate to the MSUs for all instances of the version of IMS TM that matches the version of IMS TM VUE (that is, only where the version of IMS TM of such instances is the same as the version of IMS TM VUE) in the Qualified Sysplex.

3. The number of required IMS TM VUE Value Unit entitlements will be the Value Units calculated in (1) minus the Value Units calculated in (2).

No MSUs associated with any other instances of IMS shall be included with the IMS TM VUE MSUs in the calculation to determine required Value Unit entitlements.

Example:

Simply by way of example (hypothetically, for the purpose of illustration only), assuming that the MSUs for the existing version of IMS TM which matches the version of IMS TM VUE which would be included in the calculations = 100, and the MSUs for IMS TM VUE itself = 30 (where the calculated Value Units for the copies of IMS TM VUE based on IMS TM VUE MSUs alone would = 39):

a) Assume that the calculated Value Units for the combined MSUs of the IMS TM and IMS TM VUE (that is 100 + 30 = (130 MSUs) would = 81 (Step 1 above)

b) Assume that the calculated Value Units for the applicable IMS TM (100 MSUs) would = 70 (Step 2 above)

c) Then the number of Value Unit entitlements required for IMS TM VUE would be the difference between the Value Units in a and b = 11 (that is, 81 - 70 = 11).

Calculation of Value Unit entitlements for the IMS ETO VUE program

Value Unit entitlements for IMS ETO VUE should be based on the Value Unit entitlements of IMS TM VUE. IMS TM VUE is a prerequisite for IMS ETO VUE.

Recalculation of Value Unit entitlements

There may be circumstances in which Licensee's Value Unit entitlements must be recalculated based upon changes to the environment and configuration, and additional Value Units will need to be purchased if Licensee's existing Value Unit entitlement is not sufficient. For example:

- If the utilization (for example, capacity) of Licensee's zNALC LPAR in which the Eligible Workload is deployed for use increases
- If the Eligible Workload is moved to another machine, into a Qualified Sysplex, or out of a Qualified Sysplex
- If the Value Unit entitlements Licensee acquired were based on calculations that included MSUs associated with instances of IMS TM, and the MSUs associated with such instances decline

Management of the Value Unit entitlements continues to be a customer responsibility. For example, in addition to the need for Recalculation of Value Unit Entitlements as specified above, if one of the following occurs on a machine to which the program is licensed for deployment, the customer must determine if additional Value Units and Subscription and Support need to be ordered for those tools to cover the increase:

- The z/OS-defined capacity is increased.
- The requirements for zNALC sub-capacity charges are no longer met.

Sub-capacity terms and conditions

Sub-capacity utilization is determined based on the product's own execution as reported to IBM in accordance with the requirements for reporting sub-capacity utilization for products. This program is a System z IPLA program with Execution-Based Terms for the purposes of sub-capacity pricing.

Sub-capacity charges for the programs in this announcement

To be eligible for sub-capacity charging on select System z IPLA programs, you must first implement and comply with all terms of sub-capacity System z New Application License Charges (zNALC). To implement sub-capacity zNALC, a machine must be System z (or equivalent). On that machine:

- All instances of the OS/390(R) operating system must be migrated to the z/OS operating systems.
- Any licenses for the OS/390 operating system must be discontinued.
- All instances of the z/OS operating systems must be running in z/Architecture (64-bit) mode.

For that machine, you must create and submit a Sub-Capacity Report to IBM each month. Sub-Capacity Reports must be generated using the Sub-Capacity Reporting Tool (SCRT). For additional information or to obtain a copy of SCRT, go to the System z Software Pricing website

https://ibm.com/zseries/swprice

You must comply with all of the terms of the zNALC offering.

The complete terms and conditions of sub-capacity zNALC are defined in the IBM Customer Agreement - Attachment for System z New Application License Charges (Z125-7454).

Additionally, you must sign and comply with the terms and conditions specified in the amendment to the IPLA contract - "Amendment for IBM System z Programs Sub-Capacity Pricing" (Z125-6929).

Reference-Based Parent Program

The IMS TM VUE program will be treated as a "Parent Program" for purposes of calculating charges for System z IPLA programs with Reference-Based Terms, just as if IMS TM VUE were a monthly license charge IMS program. Additional charges for IBM programs with Reference-Based Terms licensed by Licensee may apply, just as when adding MSU capacity to other IMS Parent Programs.

In the event a machine has both LPARs running IMS TM VUE and LPARs running IMS TM (MLC), the MSUs applicable to those IMS products for the purpose of establishing charges for Reference-Based z IPLA Programs will be the lesser of a) the sum of the IMS TM (MLC) and the IMS TM VUE MSUs or b) the peak z/OS MSUs as indicated on the SCRT report.

Terms and conditions for IBM IMS Database Manager Value Unit Edition V14

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage Agreement, and IBM Agreement for Acquisition of Software Maintenance.

Licensing

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

Agreement for Acquisition of Software Maintenance

The following agreement applies for Software Subscription and Support (Software Maintenance) and does not require customer signatures:

- IBM Agreement for Acquisition of Software Maintenance (Z125-6011)

Qualified Sysplex

A "Qualified Sysplex" means a Parallel Sysplex in which z/OS is eligible for aggregated zNALC charges as described in the Charges section of the Attachment for zNALC License Charges on IBM System z.

Your license authorizes use of the IMS Database Value Unit Edition only in a validly licensed System z New Application License Charge (zNALC) LPAR(s) for Eligible Workloads which are defined as workloads that meet the following criteria:

- A workload that includes IMS for Value Unit Edition, where the IMS Database Value Unit Edition has been qualified and approved through the zNALC qualification process as eligible to run in a zNALC LPAR(s), and
- The workload must be a net new z/OS workload deployed in a zNALC LPAR at the time of licensing IMS Database Value Unit Edition, and not an existing z/OS workload that:
  - Is transferred or migrated to the zNALC LPAR(s) from z/OS elsewhere in the enterprise, or,
  - Is already deployed in a zNALC LPAR(s) within the enterprise

For example, an existing z/OS workload that would be or has been shifted across a border from one country to another, or from one data center to another, or that has been renamed or rewritten does not qualify as an Eligible Workload. Workloads that are migrated from non-z/OS sources, such as Linux, UNIX, or Windows, may qualify as Eligible Workloads.

In the case of an outsourcing company that may take up the operation of IMS Database Value Unit Edition for its customer(s) and be(come) the licensee of IMS Database Value Unit Edition, the term "Enterprise" refers in all cases to the enterprise of the outsourcing company's customer(s) and not to the outsourcing company itself.

Notwithstanding anything else in the IPLA, you are authorized to have copies of IMS Database Value Unit Edition in support of your authorized use only:

1. If qualified to be deployed on a single machine, in any zNALC LPAR(s) in which the Eligible Workload is deployed for use, or
2. If qualified to be deployed within a Qualified Sysplex, in any zNALC LPAR(s) in which the Eligible Workload is deployed for use.

In addition you may make a backup copy. If you wish to deploy a copy of IMS Database Value Unit Edition in any other separate zNALC environment, you must acquire another license to IMS Database Value Unit Edition with its own separate entitlements.

Charges for this program are based on Value Unit entitlements.

Calculation of Value Unit entitlements for this program

For programs that will be deployed for use on a single machine not part of a Qualified Sysplex, the Value Unit entitlement will be determined as follows:

1. There will be a calculation of the number of Value Units which would equate to the total sum of the MSUs for any copies of IMS Database Value Unit Edition on the machine, and the MSUs for all instances of the version of IMS that matches the version of IMS Database Value Unit Edition (for instance, only where the version of IMS of such instances is the same as the version of IMS Database Value Unit Edition on that machine).
2. There will be a calculation of the number of Value Units which would equate to the MSUs for all instances of the version of IMS that matches the version of IMS Database Value Unit Edition (for instance, only where the version of IMS of such instances is the same as the version of IMS Database Value Unit Edition) on the machine.

3. The number of required Program Value Unit entitlements will be the Value Units calculated in (1) minus the Value Units calculated in (2).

For programs that will be deployed for use in a Qualified Sysplex, the Value Unit entitlement will be determined as follows:

1. There will be a calculation of the number of Value Units which would equate to the total sum of the MSUs for any copies of IMS Database Value Unit Edition in the Qualified Sysplex, and the MSUs for all instances of the version of IMS that matches the version of IMS Database Value Unit Edition (for instance, only where the version of IMS of such instances is the same as the version of the program) in the Qualified Sysplex.
2. There will be a calculation of the number of Value Units which would equate to the MSUs for all instances of the version of IMS that matches the version of IMS Database Value Unit Edition (for instance, only where the version of IMS of such instances is the same as the version of the program) in the Qualified Sysplex.
3. The number of program Value Unit entitlements will be the Value Units calculated in (1) minus the Value Units calculated in (2).

No MSUs associated with any other instances of IMS shall be included with the program MSUs in the calculation to determine required Value Unit entitlements.

Example:

Simply by way of example (hypothetically for the purpose of illustration only), assuming that the MSUs for the existing version of IMS which matches the version of IMS Database Value Unit Edition which would be included in the calculations = 100, and the MSUs for the program itself = 30 (where the calculated Value Units for the copies of the program based on program MSUs alone would = 39):

1. Assume that the calculated Value Units for the combined MSUs of the IMS and the Program (that is, 100 + 30 = (130 MSUs) would = 81 (Step 1 above)
2. Assume that the calculated Value Units for the applicable IMS (100 MSUs) would = 70 (Step 2 above)
3. Then the number of Value Unit entitlements required for IMS Database Value Unit Edition would be the difference between the Value Units in a and b = 11 (that is, 81 - 70 = 11).

Recalculation of Value Unit entitlements

There may be circumstances in which your Value Unit entitlements must be recalculated based upon changes to the environment and configuration, and additional Value Units will need to be purchased if your existing Value Unit entitlement is not sufficient. For example:

- If the utilization (for example, capacity) of your zNALC LPAR(s) in which the Eligible Workload is deployed for use increases;
- If the Eligible Workload is moved to another machine, into a Qualified Sysplex, or out of a Qualified Sysplex;
- If the Value Unit entitlements you acquired were based on calculations that included MSUs associated with instances of IMS, and the MSUs associated with such instances decline.

The IMS Database Value Unit Edition program will be treated as a "Parent Program" for purposes of calculating charges for System z IPLA programs with Reference-Based Terms, just as if the program were a monthly license charge IMS program. Additional charges for IBM programs with Reference-Based Terms licensed by you may apply, just as when adding MSU capacity to other IMS Parent Programs. IMS Database Value Unit Edition is a System z IPLA program with Execution-Based Terms for purposes of sub-capacity pricing.

In the event a machine has both zNALC LPAR(s) running IMS Database Value Unit Edition and non-zNALC LPAR(s) running IMS (MLC), the MSUs applicable to those IMS products for the purpose of establishing charges for reference-based z IPLA programs will be the lesser of:

1. The sum of the IMS (MLC) and IMS Database Value Unit Edition MSUs, or

2. The peak z/OS MSUs as indicated on the SCRT report.

Maintenance/support fixes provided for IMS may not be applied to IMS Database Value Unit Edition. Separately available Subscription and Support for IMS Database Value Unit Edition must be acquired in order to obtain support for IMS Database Value Unit Edition.

The IMS Database Value Unit Edition program requires you to indicate acceptance of the terms of this license at installation time.

IBM has the right to audit all machines and Qualified Sysplexes on which IMS Database Value Unit Edition is installed to ensure compliance with all the terms of this license and the zNALC terms and conditions.

Terms and conditions for IBM IMS Enterprise Suite V3.2

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage Agreement, and IBM Agreement for Acquisition of Software Maintenance.

Licensing

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

Agreement for Acquisition of Software Maintenance

The following agreement applies for Software Subscription and Support (Software Maintenance) and does not require customer signatures:

- IBM Agreement for Acquisition of Software Maintenance (Z125-6011)

This program is licensed under the IBM Program License Agreement (IPLA) and the associated Agreement for Acquisition of Software Maintenance, which provide for support with ongoing access to releases and versions of the program.

IBM System z Operational Support Services - SoftwareXcel is an option if you desire added services.

Variable charges apply

No

Indexed monthly license charge (IMLC) applies

No

Location license applies

No

Use limitation applies

No

Educational allowance available

Yes, a 15% education allowance applies to qualified education institution customers.

Sub-capacity terms and conditions

For each z Systems IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the required license capacity. Your required license capacity is based upon the following factors:

- The z Systems IPLA program you select
- The applicable Value Unit Exhibit
- The applicable terms
- Whether your current mainframes are full capacity or sub-capacity

For more information on the Value Unit Exhibit for the z Systems IPLA program you selected, refer to the Ordering information section.

Program number	Program name	Terms	Parent, if applicable
5655-TM3	IBM IMS Transaction Manager	Execution-based	
5655-DSE	IBM IMS Database Manager	Execution-based	

Volume orders

Not applicable.

Replaced program number	Replaced program name	Replacement program number	Replacement program name
5655-B01	IMS V7	5635-A05	IMS V14
5655-C56	IMS V8	5635-A05	IMS V14
5655-J38	IMS V9	5635-A05	IMS V14
5635-A01	IMS V10	5635-A05	IMS V14
5635-A02	IMS V11	5635-A05	IMS V14
5635-A03	IMS V12	5635-A05	IMS V14
5635-A04	IMS V13	5635-A05	IMS V14
5635-A05	IMS V14	Follow-on if any	Follow-on if any

Warranty applies

Yes

Licensed program materials availability

```
Restricted Materials of IBM:      None
Non-Restricted Source Materials: Some
Object Code Only (OCO):          Some
```

License Information numbers

Program name	Program number	Form number
IMS Transaction Manager VUE V14	5655-TM3	GC27-6764-00
IMS Extended Terminal Option VUE V14	5655-TM3	GC27-6767-00
IMS Database VUE V14	5655-DSE	GC27-6765-00

Program name	Program number	Form number
IMS Enterprise Suite for z/OS V3.2	5655-TDA	GC19-4111-02

The programs' License Information will be available for review on the IBM Software License Agreement website

http://www.ibm.com/software/sla/sladb.nsf

Program services

```
Support Center applies:        Yes
                               Access is available through the
                               IBM Support Center
Available until discontinued:  12 months' written notice
APAR Mailing Address:          IBM Corporation
                               555 Bailey Avenue
                               San Jose, CA 95141
```

Statement of good security practices

IT system security involves protecting systems and information through prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, or misappropriated or can result in misuse of your systems to attack others. Without a comprehensive approach to security, no IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a lawful, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

Important: IBM does not warrant that any systems, products, or services are immune from, or will make your enterprise immune from, the malicious or illegal conduct of any party.

Prices

Current charges are unaffected by this announcement.

IPLA programs

Program PID: 5655-TM3 IBM IMS Transaction Manager Value Unit Edition V14

Program PID: 5655-DSE IBM IMS Database Manager Value Unit Edition V14

Program PID: 5655-TDA IBM IMS Enterprise Suite for z/OS V3.2

Order now

To order, contact your Americas Call Centers, local IBM representative, or your IBM Business Partner. To identify your local IBM representative or IBM Business Partner call 800-IBM-4YOU (426-4968). For more information, contact the Americas Call Centers.

Phone: 800-IBM-CALL (426-2255)

Fax: 800-2IBM-FAX (242-6329)

For IBM representative: callserv@ca.ibm.com

For IBM Business Partner: pwcs@us.ibm.com

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