IBM Information Management System Version 15 helps you build trust into every transaction

At a glance

Today's digital economy is based on trust. The expansive integration capabilities of IMS™, coupled with its legendary qualities of service, make it easy for you to build trust into every transaction for your clients. IMS delivers the availability, scalability, and performance required for enterprise and integrated on-premises and cloud environments. IMS is open and connected, so you can extend, connect, and innovate with trusted IMS applications, transactions, and data. That same data can help you gain the most valuable insights and take action on them more efficiently than ever.

IBM(R) IMS V15 delivers capabilities that help you:

- Confidently manage risk

  - Pervasive encryption is the new standard; anything less is a compromise. IMS V15, together with the IBM z14, can help to simplify compliance certifications by allowing IBM z/OS data set encryption of IMS data with minimal CPU overhead and no application changes.

  - IMS V15 also helps you better manage security and compliance, from providing support for building greater security into your mobile solutions to helping you to track and report on mobile workloads. IMS V15 also provides support for leveraging RACF(R) password enforcement and other RACF features critical for end-to-end security in a connected mainframe environment.

- Amplify your business efficiency

  - Java™ development on IBM Z and from distributed platforms into IBM Z demands a simplified user experience. IMS V15 delivers dynamic configuration of Java environment variables and options, providing better security, flexibility, and control.

  - You can also gain insights from new support for tracking of JVM usage statistics, including elapsed run time, heap memory used, number of threads processed, and more.

  - Performance and tuning enhancements put you in control of business efficiency. In IMS V15, the IMS logger leverages DFSMS Media Manager, which enables the use of hardware features that maximize performance. New efficiencies in External Subsystem Attach Facility (ESAF) connection thread management help reduce overhead on IMS connections to the external subsystem. IMS V15 also offers broader support for dynamic change and increased potential for growth with scalability and high-availability improvements.

- Simplify system administration

– IMS thrives on transformation to help you simplify. Simplified system management capabilities reduce reliance on the IMS system definition process, simplify dynamic resource definition, and help you keep IMS trouble free.

Selected features that can help you achieve these objectives are summarized in this announcement. See the Description section for more detail on these and additional features.

IBM IMS Transaction Manager Value Unit Edition (VUE) V15 and IBM IMS Database Value Unit Edition V15 are also included in this announcement. These 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$^{(R)}$ New Application License Charge (zNALC) logical partitions (LPARs). See your IBM representative for more information and additional terms.

Overview

IBM IMS continues to deliver on the IMS value proposition. IMS V15 delivers new capabilities.

Confidently manage risk

Support for z/OS data set encryption

System administrators can now protect data in full-function VSAM databases, on the IMS log, and in selected other data sets according to the enterprise encryption policy that is in place.

Expanded support for mobile solutions

- Propagation of user identity from distributed environments to IMS. IMS V15 provides enhanced auditability and callout security in enterprise environments by providing support for propagating the original user identity from distributed environments to IMS.
- Workload reporting for mobile transactions. IMS is enhanced to work with the z/OS Workload Manager to track and report on mobile transactions and the amount of processing that they use.

Improved security and auditability features that are critical to a connected mainframe

- New IMS Connect option for RACF statistics gathering for IMS Database clients. A new parameter enables you to turn RACF statistics gathering on, which allows RACF password enforcements to be used.
- Support for additional RACF special characters in passwords. When support for special characters is enabled in RACF, IMS and IMS Connect can exploit this support.

Amplify your business efficiency

More expansive and dynamic Java development experience

- Java Virtual Machine (JVM) 64-bit support in Java-dependent regions. More efficient memory management is provided for native Java applications through support for 64-bit JVMs, allowing for use of 64-bit storage.
- Tracking of JVM usage statistics. System programmers and administrators can now enable IMS to capture the usage statistics for JVMs that run in IMS-dependent regions at specified time intervals and then view the statistics in System Management Facility (SMF).
- Dynamic configuration of Java environment variables and options. A new DD statement (//STDENV DD) in the dependent region startup JCL provides

IMS system programmers with better security, flexibility, and control over environment settings for the JVM.

Increased performance and tuning capabilities

- Use of DFSMS Media Manager by the IMS logger. In IMS V15, the IMS logger uses DFSMS Media Manager to write data to the write-ahead log data set (WADS), which, in turn, allows the use of hardware features that maximize performance.
- Additional storage architecture changes in IMS Connect for better performance and CPU utilization. In IMS V13, some storage in the IMS Connect receive communication module was changed to use CPOOL instead of STORAGE OBTAIN for better performance. As a continuation of this effort in IMS V15, the remaining storage that was still allocated using STORAGE OBTAIN is changed to be allocated using CPOOL.
- New parameter for the number of concurrent active threads. The new MINTHRDS parameter enables you to tune the minimum number of concurrent active threads for an individual data store for improved performance.
- Improved ESAF connection thread management. New efficiencies in connection thread management help reduce overhead on IMS connections to external subsystems.

Broader support for dynamic change

- DEDB Alter support for dynamically adding a new field to existing free space in a DEDB segment provides higher availability.
- DEDB Alter support for IMS-managed application control blocks (ACBs) allows higher DEDB availability in an IMS catalog environment.
- Enhancements to DDL automation options. The capability to issue CREATE DDL statements for Fast Path DEDB databases, Full Function databases, and program views allows greater self-service capabilities for rapid deployment.
- IMSRSC repository enhancements, including:
  - Support for Multiple Systems Coupling (MSC) resources allows IMS to automatically retrieve dynamically defined MSC resources from the repository at cold start.
  - Additional cleanup enhancements for the IMS RSC repository provide additional checks for an IMS leaving an IMSPlex and allow optional deletion of associated information.

Increased potential for growth with scalability and high-availability improvements

- The following enhancements have been made in IMS Connect:
  - The maximum number of ports is increased from 50 to 200.
  - Support is added for specifying a timeout for idle connections.
  - An option is added to generate a new unique client ID when a duplicate is detected.
- Conversion of the DFSAOUE0 AOI Exit Interface to use storage above the line helps improve availability by avoiding storage-related abends.
- Support for IMS programmers to specify that IMS should calculate the total number of Fast Path buffers (CNBA) to allocate for a CCTL region connecting to IMS.
- New Common Queue Server automatic structure checkpoint, which helps improve overall IMS availability.
- Improved availability when using OTMA flood control.
- Support for growing client workloads that require more than 9999 queue manager buffers, while protecting the system from out-of-storage conditions.

Simplify system administration

- Reduced need for IMS system definition enhancements. IMS V15 delivers further streamlining of the IMS system definition process and the resulting required system generation (SYSGEN).
- Consolidation of IMS logger parameters. All parameters that control the operation of the IMS logger are consolidated into a single location for more streamlined system administration and management.
- Simplified dynamic resource definition. IMS V15 introduces a new type of user exit, PGMCREAT, to allow program and database resources to be created dynamically for BMP and JBP regions when a program is scheduled. This exit allows resources to be defined at the time they are needed, without requiring the resources to be predefined through system definition or a user command.
- z/OSMF workflows. Two new z/OSMF workflows for IMS help you streamline traditional tasks and automate others.
- New QUERY TRACE and UPDATE TRACE commands enhance the usability of IMS type-2 traces.
- A new CQS unique return code for z/OS logger write errors helps speed analysis and problem determination in shared queues.

IMS V15 is offered under a new delivery and support model in which both functional enhancements and product maintenance are delivered to market when ready rather than on a version boundary. This new delivery approach makes it easier for you to stay as current as possible and adopt new function as your business needs require. For more information, see the Terms and Conditions section.

IMS V15 is using the Quality Partnership Program (QPP) process. On March 3, 2017, IBM shipped the product to customers participating in QPP. Validation activities with these customers have confirmed readiness of the product. For more information regarding the IMS V15 QPP, see Software Announcement LP16-0639, dated December 6, 2016.

Key prerequisites

IMS V15 interoperates with:

- IBM z$^{(R)}$/OS
- IBM Z processor
- Java
- IRLM
- IBM DB2$^{(R)}$
- IBM CICS$^{(R)}$
- IBM WebSphere$^{(R)}$ MQ
- IBM WebSphere Application Server
- COBOL

See the Technical information section for details.

Planned availability date

October 27, 2017

Description

Support for z/OS data set encryption

IMS V15 running on z/OS 2.3 or z/OS 2.2 with APAR OA50569 supports z/OS data set encryption capabilities announced in Software Announcement LP17-0313, dated July 17, 2017.

Detail on data sets supported for encryption in IMS V13, IMS V14, and IMS V15 is provided on the Data Set Encryption for IBM z/OS Frequently Asked Questions web page.

See the Statement of Direction section for additional intended support.

Expanded support for mobile solutions

Capability to track original user identity from mobile devices and other distributed clients

In today's heterogeneous computing environment, transactions that are initiated in distributed environments leverage authentication/identity mechanisms that are different than those used in z/OS. When this work is sent to IMS, the user's distributed identity can be lost if it is mapped to a different z/OS system authorization facility (SAF) user ID for authentication and authorization. Additionally, if a multiple to one (rather than one-to-one) mapping for distributed identity to SAF ID is used, identifying the actual distributed end user can be an even greater issue. IMS V15 provides an enhancement to propagate the original user identity to IMS for auditability and accounting purposes. The distributed identity is not used for authentication or authorization.

The enhancement supports the inclusion of a distributed credential in IMS log records for inbound requests and also allows the identity to be passed outbound on an IMS ICAL request. IMS Connect applications using HWSJAVA0, HWSSMPL0, or HWSSMPL1 user message exits can propagate the identity, which includes a network user ID and network session ID. The IMS service provider (available in z/OS Connect Enterprise Edition), OTMA callable interface applications, and IMS TM Resource Adapter can also propagate the identity to IMS Connect.

Workload reporting for mobile transactions

IMS V15 supports attributes in the z/OS Workload Manager (WLM) classification rules that allow tracking of the mobile workload transaction CPU time in the LPAR. As a result, you can generate mobile workload reports with SCRT Version 23.13.0, or later. This enhancement is also available in IMS V14 with APARs PI46933 and PI51948. This capability requires z/OS 2.1 with WLM APARs OA47042, OA49728, and OA51189.

Improved security and auditability features critical to a connected mainframe

New IMS Connect option for RACF statistics gathering for IMS Database clients

The OD RACF ST= parameter is added to the ODACCESS statement of the HWSCFGxx configuration PROCLIB member. You can use this parameter to define whether RACF statistics and messages are enabled and updated for the execution of the RACF call RACROUTE REQUEST=VERIFY. Turning the statistics gathering on allows the usage of RACF password enforcements, such as enforcing password change frequencies and performing automatic revokes due to inactivity. This feature is also available in IMS V14 through APAR PI80202.

Support for additional RACF special characters in passwords

When support for special characters is enabled in RACF, IMS and IMS Connect can exploit this support. This enhancement brings the list of special characters supported to the following: @ # $. < + | & ! * - % _ > ? : =

This enhancement is also available in IMS V13 through APARs PI54037, PI54038, and PI57031 and in IMS V14 through APARs PI48111, PI48112, and PI30848.

More expansive and dynamic Java development experience

JVM 64-bit support in Java-dependent regions

In IMS V15, a Java Virtual Machine (JVM), in either a Java message processing (JMP) or a Java batch processing (JBP) dependent region can use 64-bit storage, which provides for more efficient memory management with Java applications and ensures that all Java applications will run under IMS control. A new parameter, JVM, specified on the dependent region invocation input parameters, provides the capability to switch between 64-bit and 31-bit addressing mode. This enhancement is also available in IMS V14 through APARs PI64142 and PI64241.

Tracking of JVM usage statistics

This enhancement adds a new subtype to the IMS SMF29 record. The SMF29S2 record is used to record statistical information related to a persistent JVM in an IMS-dependent region. This change enables system programmers and administrators to capture the usage statistics that are generated by a persistent JVM running in an IMS-dependent region. The SMF records are enabled by specifying the SMFINTERVAL and JLEOPT=N parameter in the DFSJVMEV member. You can capture the following usage statistics:

- Elapsed running time of the JVM
- Garbage collection policy of the JVM
- Enhanced memory statistics, including the number of garbage collections
- Garbage collection elapsed time
- Amount of heap memory used
- Number of threads processed by the JVM

This enhancement is also available in IMS V14 through APARs PI51753 and PI30848.

Dynamic configuration of Java environment variables and options

IMS V15 introduces the use of a new DD statement (//STDENV DD) in the dependent region startup JCL to support dynamic scripting and specification of variables. This enhancement provides IMS system programmers with better security, flexibility, and control over environment settings for the JVM by moving configuration parameters from the DFSJVMEV and DFSJVMMS members of the PROCLIB data set into several Partitioned Data Sets (PDS) or Physical Sequential (PS) data sets that are referenced by the //STDENV DD statement. This change enables system administrators to organize the parameters into different data sets based on the aspects of the Java environment that they define and the roles that are allowed to modify them, which can help prevent unintended overrides of the environment variable definitions. This enhancement is also available in IMS V14 through APAR PI68127.

Increased performance and tuning capabilities

Use of DFSMS Media Manager by the IMS logger

In IMS V15, the IMS logger uses DFSMS Media Manager to write data to the write-ahead log data set (WADS). As a result, the WADS must now be defined as a linear VSAM data set. DFSMS Media Manager allows the use of hardware features like High Performance FICON[R] for z Systems (zHPF), which increases I/O throughput, and zHyperWrite, which reduces latency time for synchronous replication products. You can use the ZHYPERWRITE= parameter in the new LOGGER section of the DFSDFxxx PROCLIB member to enable or disable the use of zHyperWrite for the WADS. Because zHPF is a separately priced product, it's only used if available.

Additional storage architecture changes in IMS Connect for better performance and CPU utilization

In IMS V13, IMS Connect storage management was changed selectively to use CPOOL for messages from IMS and for dynamic storage to provide better

performance. In IMS V15, the remaining storage that was allocated using STORAGE OBTAIN is now allocated using CPOOL.

New parameter for number of concurrent active threads

IMS now enables you to specify the minimum number of concurrent active threads for an individual IMS data store in a new parameter, MINTHRDS. The parameter can also be specified at both the global (ODBM) and local (IMS datastore) levels in the CSLDCxxx PROCLIB member. This enhancement enables IMS clients to tune to their needs, balancing excessive thread creation and termination processes due to too low a minimum value versus excessive control blocks allocated for open threads due to too high a minimum value. This feature is also available in IMS V14 through APAR PI64152.

Efficiencies in connection thread management in the ESAF Associate Thread exit routine

The IMS External Subsystem Attach Facility (ESAF) is enhanced to support the ESAF Associate Thread exit routine. This exit routine can be used by external subsystems to improve processing during the creation and termination of threads by pooling dependent region threads. The optional ESAF Associate Thread exit routine is activated during sign-on processing and is called prior to the sign-on exit routine.

Before this enhancement, for every new connection from an IMS program, ESAF connections were created and then deleted, causing overhead in the DB2 ESAF connection process. This enhancement reduces connection overhead by enabling ESAF to support DB2 connection pooling for up to 50 pool entries from MPP, BMP, and IFP regions. This enhancement is available in IMS V14 through APAR PI60400. For operation with DB2 for z/OS, V11, APARs PI61982 and PI61983 are required. For operation with DB2 for z/OS, V12, APARs PI74192 and PI74193 are required. DB2 for z/OS JCC driver Version 4.19.66 APARs include PI67609 and PI67610.

Broader support for dynamic change

DEDB Alter support for adding a new field to an existing segment

In IMS V15, the DEDB Alter utility is enhanced to enable you to add a new field to existing free space in a segment while the DEDB area remains online, thus providing continuous availability during the change. Previously, a DEDB database had to be taken offline to add a new field to a segment.

DEDB Alter support for IMS-managed ACBs

The DEDB Alter utility is enhanced to access the catalog instead of ACBLIB for DEDB Alter changes when IMS management of ACBs is enabled, thus making real-time metadata about DEDB schema definitions actionable from the catalog as well as the DEDB Alter utility itself. This enables administrators to alter DEDB databases in a catalog environment without taking a database outage, supporting business growth with increased DEDB availability. This enhancement is also available in IMS V14 through APARs PI54901 and PI64894.

Enhancements in DDL automation options

Used together, the IMS management of ACBs and the IMS DDL interface provide an alternative to the cumbersome PSBGEN, DBDGEN, ACBGEN, and Online Change processes that were previously required to create or modify databases (DBDs) and the application program views (PSBs) of those databases before IMS V14. IMS now provides support for the CREATE DATABASE and CREATE PROGRAMVIEW DDL statements for Fast Path DEDB databases, Full Function databases, and program views.

In addition to automatically importing and activating Fast Path DEDB databases, Full Function databases, and program views to IMS online systems, the new DDL automation option also provides the capability of automatic data set creation for Fast Path DEDB databases.

Prior to this feature being implemented, several steps were required, which use a variety of facilities to create a DEDB database or program view resource on IMS. These steps may require intervention by more than one role in the enterprise in order to complete the full task. With standardization of this procedure through DDL, clients can leverage both DDL tooling and skill sets in their shops, providing better usability for IT staff and more self-service capabilities for rapid deployment of IMS databases. This enhancement is also available in IMS V14 through APAR PI64211 (single-IMS environments) and APAR PI69585 (data sharing environments).

IMSRSC repository enhancements

The IMS RSC repository is enhanced to provide optional support of Multiple Systems Coupling (MSC) resources. MSC resources that are created or modified dynamically with the CREATE and UPDATE commands can be automatically exported to the IMS RSC repository at IMS checkpoint time and before IMS shutdown. After the MSC resources are stored in the IMSRSC repository, the resources are saved permanently, even across cold starts.

Before IMS V14, MSC resources that were created or modified dynamically were saved across an IMS cold start only if system definition macros were also updated with the changes and IMS was taken offline to refresh the resource definitions. After MSC resources are exported to the IMS RSC repository, IMS can automatically retrieve the dynamically defined MSC resources from the repository at cold start instead of from the resources generated during an IMS system definition. This enhancement is also available in IMS V14 through APAR PI50129.

Another added feature enhances the DELETE DEFN TARGET(REPO) command, adding TYPE(IMS IDMBR). This enhancement makes it possible to clean up internal IMS id information from the IMS id member table in the IMS RSC repository for an IMS leaving the IMS plex. It can be used to delete any IMS member that is no longer needed. It also allows IMS to delete the information from the IMS RSC repository for an IMS that was added incorrectly to the repository. This enhancement is also available in IMS V14 through APAR PI55356.

Increased potential for growth

Increase in maximum number of IMS Connect ports

The prior limitation of 50 IMS Connect ports is raised to 200 so that clients can avoid needing to have multiple IMS Connect instances just to define more than 50 ports. This change helps clients avoid operational and automation issues associated with multiple IMS Connect instances. You can specify the number of IMS Connect ports in the HWSCFGxx configuration PROCLIB member.

Specifying a timeout for idle connections in IMS Connect

You can now configure IMS Connect to close an IMS TM client connection if it remains idle for a specified period of time after the prior client interaction completes. This solves issues when, for example, a distributed (web browser-based) application opens a session with IMS Connect but under some conditions never terminates that socket. This can happen in situations where end users are closing a browser tab or window without properly ending the IMS Connect session. You specify the time period on the IDLETO parameter in the TCPIP configuration statement. IMS Connect administrators can review the traffic on socket connections and tune the IDLETO timeout value to minimize the amount of IMS Connect resources that idle socket connections use. This feature is also available in IMS V14 through APAR PI83616.

Option to generate a new unique client ID when a duplicate is detected

IMS Connect is enhanced with an option to generate and assign a unique client ID when the clientid name provided is a duplicate of one already in use. This provides the user the option to eliminate session interruptions resulting from duplicate client ID conditions. An additional option can also specify IMS Connect to return the clientid name associated with the session with the next output message. These options are specified in the IMS Request Message (IRM) of the message. This feature

is also available in IMS V14 through APAR PI43088 and in IMS V13 through APAR PI26856.

Conversion of the DFSAOUE0 AOI Exit Interface

In IMS V15, the DFSAOUE0 AOI Exit Interface is converted to use 31-bit AOIP buffers instead of 24-bit CIOP buffers in all instances, thus helping to avoid storage-related abends and also helping to improve availability.

Dynamic calculation of Fast Path buffers to allocate to CCTL regions

For CICS-driven transactions accessing IMS Fast Path databases, the current restriction of 9999 CNBA buffers for CCTL regions can limit the number of parallel database resource adapter (DRA) partition specification tables (PSTs) that can be allowed for that CCTL. With this enhancement, IMS enables system programmers to specify that IMS should calculate the total number of Fast Path buffers (CNBA) to allocate for a CCTL connecting to IMS, and dynamically expand Fast Path buffers assigned to a CCTL region when using the 64-bit buffer manager. In turn, this can result in better performance for open database applications, and it also enhances parallelism for DRA Fast Path users, IMS Replication, and ODBM. This feature is also available in IMS V13 through APAR PI69608 and in IMS V14 through APAR PI60717.

CQS automatic checkpoint for improved availability

Prior to IMS V15, clients have relied on their own in-house automation processes to take a periodic Common Queue Server (CQS) structure checkpoint at desired time intervals. IMS now allows a structure checkpoint to be initiated automatically by a CQS system when a user-specified number of log records is reached, helping to improve IMS overall availability. This option is specified through the STRCHKPT= parameter of the CQSSLxxx PROCLIB member.

OTMA flood limit enhancement

The OTMA flood control limit for input messages for a member is increased from 9999 to 65000. Clients may want to set a larger number for the flood limit to allow more reaction time if an 80% flood warning message is sent. If the flood limit is set too low, the flood condition might happen very quickly as it goes from 80% flood to 100% flood without providing reaction time to correct the situation. Additionally, OTMA transaction expiration logic is enhanced so that the expired OTMA transaction can be discarded from the system without abend processing. OTMA flood control can be activated globally using the INPT= parameter in the DFSOTMA descriptor in the DFSYDTx PROCLIB member. This enhancement is also available in IMS V14 through APAR PI45661.

QBUFMAX greater than 9999

The maximum number of queue manager buffers is increased from 9999 to 9999999. This provides support for growing client workloads while still protecting the system from out-of-storage conditions. QBUFMAX can be specified as an IMS procedure parameter or in the DFSPBxxx PROCLIB member. This enhancement is also available in IMS V14 through APAR PI71929.

Simplified system management and administration

Enhancements that reduce the need for IMS system definition and system generation (SYSGEN)

For ease of management and administration, IMS V15 continues progress in streamlining IMS system definition and the resulting required system generation (SYSGEN). The following items have been removed from the process, reducing the overall SYSGEN work required of IMS system programmers:

- IMS.OPTIONS dataset: References to the IMS.OPTIONS dataset have been removed from sample JCL. The IMS.OPTIONS data set contains only one member, DFSVTAM, which is used to define and set the &DFSVTAM and

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&DFSBTAM global variables. The DFSVTAM member is not used during system generation, so the IMS.OPTIONS dataset is no longer needed and it is removed.

- BUFPOOLS macro: The BUFPOOLS macro statement specifies default storage buffer pool sizes for the DB/DC, DCCTL, and DBCTL environments. IMS V15 users should now specify buffer pool sizes in the DFSPBxxx member of the IMS PROCLIB data set or in the JCL.

- Sample procedures: In IMS V15, the IMS system definition process no longer generates sample procedures. Instead, most of the procedures that were generated by system definition are now built during SMP/E processing and placed in the new ADFSPROC and SDFSPROC library data sets.

- User exits: The following user exits were in the nucleus in IMS V14 and prior versions and no longer reside in the IMS V15 nucleus. The user exits are now loaded as stand-alone routines: DFSCMTU0 (user message table), DFSCNTE0 (CNT destination edit routine), DFSCSMB0 (transaction input edit routine), DFSCTTO0 (physical terminal output edit routine), DFSFEBJ0 (front-end switch routine), DFSME000 - DFSME127 (MFS segment formats), DFSPIXT0 (physical terminal input edit routine), and DFSSIML0 (shared printer message router routine). The interface for the exits has not been changed.

Move of IMS logger parameters to DFSDFxxx member

In IMS V15, all parameters that control the operation of the IMS logger are moved to the DFSDFxxx PROCLIB member. Consolidating all logger parameters in a single, centralized location provides for easier system management

Simplified dynamic resource definition for programs and database resources in BMP/JBP regions

IMS V15 introduces a new type of user exit routine, PGMCREAT, which simplifies the creation of runtime program resources for application programs that run in BMP and JBP regions. With this new exit, an IMS system programmer can schedule a BMP or JBP region without having to define the application program to IMS using the system definition APPLCTN macro or the IMS CREATE PGM command. The exit can instead be used to postpone the creation of the program resource until the program is to be scheduled in a BMP or JBP region. When the program is created, the user exit can also optionally create a database resource. Define the new user exit type in the USER_EXITS section of the DFSDFxxx PROCLIB member.

z/OSMF workflows

By streamlining some traditional tasks and automating others using IBM z/OS Management Facility (z/OS MF), you can simplify areas of z/OS system management. Two new z/OSMF workflows for IMS can be used to provision a full IMS system and also to provision a FastPath database on an existing IMS. The workflows are available from the Downloads tab on the IBM Information Management System website and are also available through GitHub at zsystems / IMS-zOSMF-Workflows. In addition to easing system management, z/OSMF workflows provide a modern, easy-to-use interface, allow for task delegation to different users, and maintain a history of all actions and output.

Features that improve troubleshooting and serviceability

QUERY TRACE and UPDATE TRACE commands

The QUERY TRACE and UPDATE TRACE commands are two new commands added to enhance the usability of IMS V15 type-2 traces and the serviceability of IMS. The QUERY TRACE command enables you to display information about IMS type-2 traces. The UPDATE TRACE command enhances the availability of IMS by enabling you to change the volume level of a type-2 trace without having to bring IMS down. These commands are also available in IMS V14 through APARs PI77406 (QUERY TRACE) and PI80896 (UPDATE TRACE).

CQS unique return code for z/OS logger write errors

Clients use CQS services to manipulate client data on shared queues. When things go wrong, CQS can return a generic return code that can mask some z/OS logger-

related issues. A new, unique return code surfaces these errors, which can help speed analysis and problem determination.

IBM IMS Tools

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

All currently supported IBM IMS Tools will have day one currency for IMS V15. This currency support has been delivered through PTFs.

IBM IMS Administration Tool for z/OS is now available. IMS Administration Tool for z/OS provides a comprehensive set of functions designed to ease the workload of today's IMS administrators. With this product, you can manage your IMS DBD and PSB resources, including the ability to view, add, and change IMS objects. For users implementing the IMS catalog, you can report on your IMS catalog space usage and compare its contents to your current ACB libraries. The IMS Administration Tool helps you import application schema from COBOL copybooks into the catalog for either an individual database or in bulk, through a mass-import process. You can also issue Type-1 and Type-2 IMS commands, generate simple, task-based JCL for all your IMS maintenance needs, and even use SQL statements to query the catalog or access your IMS data interactively or in batch. Choose between an online web interface, through integration with the separately licensed IBM Management Console for IMS and DB2 for z/OS, V1.1 (5655-TAC), or a traditional ISPF interface.

IBM IMS Database Solution Pack for z/OS combines several sophisticated IMS database products into a single solution. With version 2.2, IMS Database Solution Pack now contains the new IMS Administration Tool for z/OS, V1.1.

For more information, see Software Announcement LP17-0054, dated September 5, 2017, and the IMS Administration Tool for z/OS website.

Contact your IBM representative to schedule a demo or Proof of Technology.

Not all enhancements are covered above and not all enhancements covered above include full detail on dependencies and prerequisites. For additional information, see the *IMS Release Planning Guide*.

Product positioning

IMS delivers the highest levels of availability, scalability, and performance required for enterprise and integrated on-premises and cloud environments. IBM IMS is open and connected, so you can extend, connect, and innovate with trusted IMS applications and transactions. You can manage risk far more effectively by pervasively encrypting a key business asset: your IMS data. That same data can help you gain the most valuable insights and take action on them, faster than ever.

IMS V15 complements IBM CICS, IBM DB2, and IBM WebSphere servers for enterprise database and transaction management. Expansive integration capabilities help position IMS at the center of a multitier enterprise architecture. IMS operational data can be accessed by business intelligence (BI) and analytics tools. IMS data can be accessed directly or propagated and replicated with relational data in support of BI. IBM offerings include standard application interfaces and drivers to access IMS and also other data. Both relational data and hierarchical IMS data can be efficiently accessed, together or independently, using the IMS Transaction Manager (IMS TM), CICS, and WebSphere servers. IMS Transaction Manager offers application management, data storage, and data access, and applies strict rules for this access.

IBM and IMS continue to support new levels of tooling and integration. Enterprise clients can use IBM z/OS Connect Enterprise Edition, IBM Developer for z Systems, IBM Application Discovery and Delivery Intelligence, and other offerings to maintain and enhance trusted IMS applications and develop web applications. Using the IMS

Universal Database drivers, WebSphere applications can access IMS database data directly by using industry-standard Java database connectivity (JDBC) and SQL.

This announcement confirms that IMS remains 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.

Statement of direction

Information Management System V15

IMS-managed ACBs

IBM IMS has evolved into a more dynamic system, based on continuous redesign that will ultimately eliminate the need for system generation. This redesign currently includes dynamic definition for resources such as application programs, databases, routing codes, transactions, OSAM buffer pools, VSAM share pools, MSC physical links, logical links, logical link paths, and remote logical terminals.

IMS V14 delivered optional support allowing IMS to dynamically manage application control blocks (ACBs). IMS-managed ACBs allows for the use of DDL to replace DBD and PSB generation processes. Databases and program views can be dynamically defined using SQL DDL statements instead of generation utilities, such as ACBGEN.

IBM intends to require IMS management of ACBs in the future. IMS and the IMS catalog must be set up to support ACB management. IMS provides a utility for this.

At a later date, after the requirement for IMS-managed ACBs is in place, IBM also intends to remove the generation processes for PSBLIB, DBDLIB, and ACBLIB. At that time, the IMS catalog, SQL, and DDL become the interface to IMS database management.

These planned changes to IBM IMS help to enhance availability and free up DBA resources; improve productivity; simplify operations, testing, and debugging; and accelerate time-to-value for new business solutions.

IMS support of z/OS encryption

IBM intends to deliver enhancements to IMS that will allow data in write-ahead data sets (WADS), Fast Path Data Entry Database (DEDB), and overflow sequential access method (OSAM) data sets to be encrypted.

IBM's statements regarding its plans, directions, and intent are subject to change or withdrawal without notice at IBM's sole discretion. Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision. The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remain at our sole discretion.

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 number	VRM	Program name
5635-A06	15.1.0	IBM Information Management System
5655-DS5	15.1.0	IBM Information Management System Database Value Unit Edition
5655-DSR	1.1.0	IBM Information Management System Database Value Unit Edition S&S
5655-TM4	15.1.0	IBM Information Management System Transaction Manager Value Unit Edition
5655-TMS	1.1.0	IBM Information Management System Transaction Manager Value Unit Edition S&S

Technical information

Specified operating environment

Hardware requirements

IMS V15 runs only in z/Architecture$^{(R)}$ mode on an IBM System z10$^{(R)}$ processor, or higher.

Software requirements

The following minimum version, release, or modification levels are supported for interoperation with IMS V15 (as long as these versions remain available and supported by IBM):

- z/OS V2.2 (5650-ZOS), or later, and DFSMS V2.2 APAR OA50569 (and its prerequisite and corequisite APARs for data set encryption support)
- RACF (included in a separately orderable Security Server feature of z/OS V2.2) or equivalent, if security is used
- IBM High-Level Assembler Toolkit, a separately orderable feature of z/OS V2.2
- Java Development Kit (JDK) 8, if using IMS Universal Drivers or Java Dependent Regions
- DB2 for z/OS (5615-DB2), V11, or later
- IRLM V2.3 (5635-A06) or later if data sharing is used; IRLM is delivered with IMS V15
- CICS V4.2 (5655-S97), or later
  - CICS 5.1 is required for ISC TCP/IP.
- WebSphere MQ (5724-H72) V7.5
- WebSphere Application Server for z/OS (5655-W65) or WebSphere Application Server for distributed platforms, V8.5.5 (5724-J08)
- COBOL V5.1 (5655-W32), or later, with IMS coprocessor support if using IMS SQL support for COBOL application programs
- System-Managed CF Structure Duplexing is recommended, though not required, for the Resource Manager resource structure

For additional information, see the *IMS Release Planning Guide*.

IMS V15 is written in High Level Assembler, PL/X, C, C++, and Java.

Stabilizations, deprecations, and withdrawals

The following statements address stabilization, deprecation, or withdrawal of features. Statements made in prior announcement letters are consolidated again in this announcement letter for your convenience. See the original announcement letters for alternative usage recommendations.

IMS

- Enhancements made in IMS no longer include support for Extended Recovery Facility (XRF).
- The IMS Universal JDBC driver no longer supports the storing or retrieval of XML columns from an IMS database.
- The Common Client Interface versions of the IMS database resource adapters are no longer supported.
- IMS V13 is the last release to support:
  - MFS Web Enablement
  - IMS Classic Java APIs
- IMS V14 is the last release to support:
  - Remote Site Recovery
  - Message Format Service SOA
- Support has been removed for the SSL and LOCAL port options in IMS Connect.
- Support has been discontinued for the Large GEN (LGEN) process.

For more information, see the following announcements:

- Software Announcement LP16-0639, dated December 6, 2016(IBM Information Management System V15)
- Software Announcement LP13-0483, dated October 1, 2013(IBM Information Management System 13 Transaction and Database Servers)
- Software Announcement LP15-0537, dated October 5, 2015(IBM Information Management System V14)

An intent to repackage IMS Transaction Manager Resource Adapter and the IMS Universal Drivers with IMS Enterprise Suite instead of IMS was indicated in Software Announcement LP16-0639, dated December 6, 2016.

These components will instead remain packaged with IMS 15. Downloads of these IMS components will continue to be available from the IBM Information Management System website.

IMS Enterprise Suite

No further functional enhancements will be delivered on the following components:
- IMS Connect API
- SOAP Gateway
- IMS Mobile Feature Pack
- IMS Mobile Feature Pack for z/OS Connect Enterprise Edition
  - IMS Mobile Feature Pack for z/OS Connect Enterprise Edition (z/OS Connect EE) is now included as the IMS service provider in IBM z/OS Connect EE V2.0.5 (APAR PI70432), or later. For the latest IMS mobile solution information, see the z/OS Connect EE documentation.
- IMS Java Message Service (JMS) API
- IMS Data Provider for Microsoft™.NET

IMS Explorer for Development V3.2.1 is the last release to include a Microsoft Windows™ 32-bit installation option.

IMS Explorer for Development V3.3 was made available in September 2017. IMS Explorer V3.3 supports Eclipse Neon V4.6.3 as part of the IBM Explorer for z/OS release cadence to ensure platform currency and stay compatible with the most current Eclipse open source components.

You can download and install the latest version of IMS Explorer for Development from the Mainframe Eclipse tools download site at IBM developerWorks[(R)] .

On the download site, you can find IMS Explorer for Development among the product offerings, with the supported installation method and Eclipse version indicated. The site also provides detailed instructions for various installation scenarios, including downloading the repositories for offline installation.

For more information, see the following announcements:

- Software Announcement LP16-0078, dated February 16, 2016(IBM Service Management Suite for z/OS, V1.4.0)
- Software Announcement LP16-0639, dated December 6, 2016(IBM Information Management System V15 QPP)

IMS documentation

To enable more frequent updates to the IMS PDFs in support of continuous delivery, new or updated PDFs of the IMS documentation will no longer be delivered through the IBM Publications Center. Instead, all new or updated IMS PDFs will be available for download from PDF files of IMS documentation at IBM Knowledge Center. IMS PDFs that are already available in the IBM Publications Center will remain in the IBM Publications Center.

Marketing and support withdrawals

Effective October 27, 2017, IBM will withdraw from marketing the IBM IMS Version 15 Quality Partnership Program (QPP). The IMS 15 QPP program will also be withdrawn from service and support effective October 27, 2017.

User group requirements

This announcement satisfies or partially satisfies the following requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

Not all features associated with these requirements are referenced in this announcement, even though they have been delivered. See the IMS information in IBM Knowledge Center for more information on enhancements not covered in this announcement.

Request for Enhancement (RFE) list

Number	Enhancement description
RFE 33326	Provide minimum thread count parameter in ODBM configuration
RFE 34371	Set a specified DMACXVAL value when SDEP Delete utility deletes all SDEP segments.
RFE 35787	IMS should support a QBUFMAX specification greater than 9999.
RFE 36280	Prevent IMS abend U0904 during MFS online change
RFE 45019	Propagate end user identity in an SOA environment built on DataPower[(R)] when

Number	Enhancement description
	calling IMS Connect to invoke IMS transactions
RFE 58902	Provide a config parm for IMS Connect in HWSCFGxx to control MAX time a client can be in RECV state
RFE 63260	IMS and IMS Connect password support should allow expanded character set
RFE 67746	Raise IMS Connect 50-port limitation
RFE 76347	Allow dynamic variable substitution of the contents of DFSJVMEV and DFSJVMMS, such as the IMS ID and the system symbols, and preferably, even user defined variables. Alternatively, allow the JBPs to execute a script to establish the environment, similar to the STDENV DDDEF used with JZOS.
RFE 78556	DRD Exit equivalent to DFSINSX0 to insert BMP PDIR for scheduling
RFE 78820	Enhance reporting of IMS locking (satisfied for IMS 14)
RFE 81693	Requirement to return the users RACF'LAST ACCESS' information (ICH70001I) after successful sign on to IMS (satisfied for IMS V14)
RFE 90022	Support for RACF statistics / daily statistics for JDBC calls (IMS Connect and ODBM)
MR0926005937	Convert DFSQUEI0 to use HIOP pool instead of CIOP pool
MR1001093737	Add new IMS parameter to take regular structure checkpoint in Shared Queue environment
PSHB0709-1265	IMS propagation of distributed identity

For requirements that do not appear in this list, see the IMS RFE Community.

The following requirements were satisfied or partially satisfied but do not map to RFE numbers:

- Add zHPF support for WADS
- Remove CNBA parameter limit when FP 64 is being used
- Use of DFSMS Media Manager by the IMS logger

Ordering information

New licensees

Orders for new licenses can be placed now.

Registered clients 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 V15 should specify: **Type: 5635 Model: A06**

CFSW configuration and order entry capability are available.

This product is eligible for Country Multiplex License Charge (CMLC) pricing metric. For more information regarding CMLC, see Software Announcement LP15-0317, dated July 28, 2015.

Parallel Sysplex license charge (PSLC)

IBM Customer Agreement (ICA)

Parallel Sysplex$^{(R)}$ license charge (PSLC) basic license

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, 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 Service Units in Millions (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 V15

Program PID: 5635-A06

Element Identifier	Description	Licensing option/ Pricing metric
S018211	IMS TM V15	Basic License Monthly Charge Parallel Pricing (Capacity 1 or 2 MSU)
S018212	IMS ETO V15	Basic License Monthly Charge Parallel Pricing (Capacity 1 or 2 MSU)
S018214	IMS DB Mgr V15	Basic License Monthly Charge Parallel Pricing (Capacity 1 or 2 MSU)
S018211	IMS TM V15	Basic License Monthly Charge PSLC up to level D MSU Capacity
S018212	IMS ETO V15	Basic License Monthly Charge PSLC up to level D MSU Capacity
S018214	IMS DB Mgr V15	Basic License Monthly Charge PSLC up to level D MSU Capacity
S018211	IMS TM V15	Basic License One Time Charge-alternative Parallel Pricing (Capacity 1 or 2 MSU)
S018212	IMS ETO V15	Basic License One Time Charge-alternative Parallel Pricing (Capacity 1 or 2 MSU)
S018214	IMS DB Mgr V15	Basic License One Time Charge-alternative Parallel Pricing (Capacity 1 or 2 MSU)
S018211	IMS TM V15	Basic License One Time Charge-alternative PSLC up to level D MSU Capacity
S018212	IMS ETO V15	Basic License One Time Charge-alternative PSLC up to level D MSU Capacity
S018214	IMS DB Mgr V15	Basic License One Time Charge-alternative

Element Identifier	Description	Licensing option/ Pricing metric
		PSLC up to level D MSU Capacity
S018211	IMS TM V15	System Usage Registration No Charge PSLC up to level D MSU Capacity
S018212	IMS ETO V15	System Usage Registration No Charge PSLC up to level D MSU Capacity
S018214	IMS DB Mgr V15	System Usage Registration No Charge PSLC up to level D MSU Capacity

Orderable supply ID	Language	Distribution medium	Description
S0186GJ	US English	1/2 Inch Data Cartridge -IBM 3590 - 30 GB - 128 Track	IMS Database V15
S0186GK	US English	1/2 Inch Data Cartridge -IBM 3590 - 30 GB - 128 Track	IMS Transaction Manager V15
S0186GL	US English	1/2 Inch Data Cartridge -IBM 3590 - 30 GB - 128 Track	IMS Extended Terminal Option V15

International Program License Agreement

The IMS Transaction Manager Value Unit Edition and Database Value Unit Edition offerings have one charge unit: Value Units.

Program number	Program name	Value unit exhibit
5655-TM4	Information Management System Transaction Manager Value Unit Edition V15	VUE001
5655-DS5	Information Management System Database Value Unit Edition V15	VUE001

Program name: IBM IMS Transaction Manager Value Unit Edition V15

Program PID: 5655-TM4

Entitlement identifier	Description	License option/ Pricing metric
S0187DS	IMS ETO VUE V15	Multi-Version Measurement No Charge Value Units
S0187DS	IMS ETO VUE V15	On Off Capacity on demand Temporary Use Charge MSU-DAY(s)
S0187DS	IMS ETO VUE V15	Use-Based License One-Time Charge Value Units
S0187DT	IMS TM VUE V15	Multi-Version Measurement No Charge Value Units
S0187DT	IMS TM VUE V15	On Off Capacity on demand Temporary Use Charge MSU-DAY(s)
S0187DT	IMS TM VUE V15	Use-Based License One-Time Charge Value Units

Orderable supply ID	Language	Distribution medium	Description
S0187DV	US English	1/2 Inch Data Cartridge -IBM	IBM IMS Transaction

Orderable supply ID	Language	Distribution medium	Description
		3590 - 30 GB - 128 Track	Manager Value Unit Edition V15
S0187DW	US English	1/2 Inch Data Cartridge -IBM 3590 - 30 GB - 128 Track	IBM IMS Extended Terminal Option VUE V15

Subscription and Support

Subscription and Support PID: 5655-TMS

Orderable Supply ID	Description	Language	Distribution Medium
S017K0V	IMS Transaction Manager Value Unit Edition S&S	English US	Paper
S017K41	IMS Extended Terminal Option VUE S&S	English US	Paper

Entitlement identifier	Description	License option/ Pricing metric
S017K13	IMS TM VUE S&S	Basic MSC, per Value Unit SW S&S
		No charge, decline SW S&S
		Per MSU SW S&S registration
		Multi-Version Measurement S&S NC
S017K45	IMS ETO VUE S&S	Basic MSC, per Value Unit SW S&S
		No charge, decline SW S&S
		Per MSU SW S&S registration
		Multi-Version Measurement S&S NC

Orderable supply ID	Description	Language	Distribution medium
S017K0V	IMS Transaction Manager Value Unit Edition S&S	English US	Hardcopy pub
S017K41	IMS Extended Terminal Option VUE S&S	English US	Hardcopy pub

Program name: IBM IMS Database Value Unit Edition V15

Program PID: 5655-DS5

Entitlement Identifier	Description	License Option/Pricing Metric
S017XHH	IMS DB Value Unit Edition	Multi-Version Measurement No Charge Value Units
S017XHH	IMS DB Value Unit Edition	On Off Capacity on demand Temporary Use Charge MSU-DAY(s)
S017XHH	IMS DB Value Unit Edition	Use-Based License One-Time Charge Value Units

Orderable Supply ID	Description	Language	Distribution Medium
S017XHG	IBM Information Management	English US	1/2 Inch Data Cartridge -IBM

Orderable Supply ID	Description	Language	Distribution Medium
	System Database Value Unit Edition		3590 - 30 GB - 128 Track

Subscription and Support PID: 5655-DSR

Orderable supply ID	Description	Language	Distribution medium
S017863	Information Management System Value Unit Edition Database Server S&S	English US	Paper

Orderable supply ID	Description	License Option/Pricing Metric
S017864	IMS Database VUE S&S	Basic MSC, per Value Unit SW S&S
		No charge, decline SW S&S
		Per MSU SW S&S registration
		Multi-Version Measurement S&S NC

Advanced Workload License Charges (AWLC)

Advanced Workload License Charges (AWLC) basic license

To order a basic license, specify the program number and quantity of MSUs. 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 AWLC 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 System Usage Registration No-Charge (SYSUSGREG NC) Identifier on the licenses.

Program name: IMS V15

Program PID: 5635-A06

Entitlement ID	Description	License Option/Pricing Metric
S018211	IMS TM V15	Basic License Monthly Charge Advanced Workload License Charge
S018212	IMS ETO V15	Basic License Monthly Charge Advanced Workload License Charge
S018214	IMS DB Mgr V15	Basic License Monthly Charge Advanced Workload License Charge
S018211	IMS TM V15	Basic License One Time Charge-alternative Advanced Workload License Charge
S018212	IMS ETO V15	Basic License One Time Charge-alternative Advanced Workload License Charge
S018214	IMS DB Mgr V15	Basic License One Time Charge-alternative Advanced Workload License Charge
S018211	IMS TM V15	Workload Registration No Charge Advanced Workload License Charge

Entitlement ID	Description	License Option/Pricing Metric
S018212	IMS ETO V15	Workload Registration No Charge Advanced Workload License Charge
S018214	IMS DB Mgr V15	Workload Registration No Charge Advanced Workload License Charge

Advanced Entry Workload License Charges (AEWLC)

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

Program name: IBM IMS V15

Program PID: 5635-A06

Entitlement ID	Description	License Option/Pricing Metric
S018211	IMS TM V15	Basic License Monthly Charge AEWLC - Advanced Entry WLC
S018212	IMS ETO V15	Basic License Monthly Charge AEWLC - Advanced Entry WLC
S018214	IMSDB Mgr V15	Basic License Monthly Charge AEWLC - Advanced Entry WLC
S018211	IMS TM V15	Basic License One Time Charge-alternative AEWLC - Advanced Entry WLC
S018212	IMS ETO V15	Basic License One Time Charge-alternative AEWLC - Advanced Entry WLC
S018214	IMS DB Mgr V15	Basic License One Time Charge-alternative AEWLC - Advanced Entry WLC

Country Multiplex License Charges (CMLC)

Country Multiplex License Charges (CMLC) basic license

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

If there is more than one program copy in a Country Multiplex, the charge for all copies is associated to one license if all the copies are licensed to one customer number within the multiplex. If there is more than one customer number, the charge for all copies is prorated to one license for each customer within the multiplex

For each license being charged, specify the applicable CMLC license options and the prorated quantity of the Service Units in Millions (MSUs) for each customer number within the multiplex. For all other program copies, specify the Workload Registration No-Charge (WLREG NC) Identifier on the licenses.

Program name: IBM IMS V15

Program PID: 5635-A06

Entitlement ID	Description	License Option/Pricing Metric
S018211	IMS TM V15	Basic License Monthly Charge Country Multiplex License Charge
S018212	IMS ETO V15	Basic License Monthly Charge Country Multiplex License Charge

Entitlement ID	Description	License Option/Pricing Metric
S018214	IMS DB Mgr V15	Basic License Monthly Charge Country Multiplex License Charge
S018211	IMS TM V15	Workload Registration No Charge Country Multiplex License Charge
S018212	IMS ETO V15	Workload Registration No Charge Country Multiplex License Charge
S018214	IMS DB Mgr V15	Workload Registration No Charge Country Multiplex License Charge

Variable Workload License Charge (VWLC)

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

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 Variable WLC license options and the quantity represented by the sum of the Service Units in Millions (MSUs) in the Parallel Sysplex. For all other program copies, specify the Workload Registration No-Charge (WLREG NC) Identifier on the licenses.

Program name: IBM IMS V15

Program PID: 5635-A06

Entitlement ID	Description	License Option/Pricing Metric
S018211	IMS TM V15	Basic License Monthly Charge Variable Workload License Charge
S018212	IMS ETO V15	Basic License Monthly Charge Variable Workload License Charge
S018214	IMS DB Mgr V15	Basic License Monthly Charge Variable Workload License Charge
S018211	IMS TM V15	Basic License One Time Charge-alternative Variable Workload License Charge
S018212	IMS ETO V15	Basic License One Time Charge-alternative Variable Workload License Charge
S018214	IMS DB Mgr V15	Basic License One Time Charge-alternative Variable Workload License Charge
S018211	IMS TM V15	Workload Registration No Charge Variable Workload License Charge
S018212	IMS ETO V15	Workload Registration No Charge Variable Workload License Charge
S018214	IMS DB Mgr V15	Workload Registration No Charge Variable Workload License Charge

Entry Workload License Charge (EWLC)

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

Program name: IBM IMS V15

Program PID: 5635-A06

Entitlement ID	Description	License Option/Pricing Metric
S018211	IMS TM V15	Basic License Monthly Charge Entry Workload License Charge
S018212	IMS ETO V15	Basic License Monthly Charge Entry Workload License Charge
S018214	IMS DB Mgr V15	Basic License Monthly Charge Entry Workload License Charge
S018211	IMS TM V15	Basic License One Time Charge-alternative Entry Workload License Charge
S018212	IMS ETO V15	Basic License One Time Charge-alternative Entry Workload License Charge
S018214	IMS DB Mgr V15	Basic License One Time Charge-alternative Entry Workload License Charge

IBM Z Usage License Charge

IBM Z Usage License Charge, basic license

Specify the applicable IBM Z 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.

The customer pricing will be determined by selecting either:

Entitlement identifier	Description	License option/ Pricing metric
S018211	IMS TM V15	Basic License Monthly Charge Usage License Charge (Non-Cumulative) up to 0.5 MSU
S018212	IMS ETO V15	Basic License Monthly Charge Usage License Charge (Non-Cumulative) up to 0.5 MSU
S018214	IMS DB Mgr V15	Basic License Monthly Charge Usage License Charge (Non-Cumulative) up to 0.5 MSU
S018211	IMS TM V15	Basic License Monthly Charge Usage License Charge Measured Usage above 0.5 MSU
S018212	IMS ETO V15	Basic License Monthly Charge Usage License Charge Measured Usage above 0.5 MSU
S018214	IMS DB Mgr V15	Basic License Monthly Charge Usage License Charge Measured Usage above 0.5 MSU
S018211	IMS TM V15	System Usage Registration No Charge Usage License Charge Measured Usage above 0.5 MSU
S018212	IMS ETO V15	System Usage Registration No Charge Usage License

Entitlement identifier	Description	License option/ Pricing metric
		Charge Measured Usage above 0.5 MSU
S018214	IMS DB Mgr V15	System Usage Registration No Charge Usage License Charge Measured Usage above 0.5 MSU

Growth opportunity license charge (GOLC)

To order a basic license, specify the program number and the machine model.

Program name: IBM IMS V15

Program PID: 5635-A06

Entitlement ID	Description	License Option/Pricing Metric
S018211	IMS TM V15	Basic License Monthly Charge Growth Opportunity Processor Based Charges
S018212	IMS ETO V15	Basic License Monthly Charge Growth Opportunity Processor Based Charges
S018214	IMS DB Mgr V15	Basic License Monthly Charge Growth Opportunity Processor Based Charges
S018211	IMS TM V15	Basic License One Time Charge-alternative Growth Opportunity Processor Based Charges
S018212	IMS ETO V15	Basic License One Time Charge-alternative Growth Opportunity Processor Based Charges
S018214	IMS DB Mgr V15	Basic License One Time Charge-alternative Growth Opportunity Processor Based Charges

IBM Z entry license charge (zELC)

To order zELC software, specify the program number and machine model.

Program name: IBM IMS V15

Program PID: 5635-A06

Entitlement ID	Description	License Option/Pricing Metric
S018211	IMS TM V15	Basic License Monthly Charge zSeries Entry License Charge
S018212	IMS ETO V15	Basic License Monthly Charge zSeries Entry License Charge
S018214	IMS DB Mgr V15	Basic License Monthly Charge zSeries Entry License Charge
S018211	IMS TM V15	Basic License One Time Charge-alternative zSeries Entry License Charge
S018212	IMS ETO V15	Basic License One Time Charge-alternative zSeries Entry License Charge

Entitlement ID	Description	License Option/Pricing Metric
S018214	IMS DB Mgr V15	Basic License One Time Charge-alternative zSeries Entry License Charge

Basic machine-readable material

Orderable Supply ID	Language	Distribution medium	Description
S0186GJ	US English	1/2 Inch Data Cartridge -IBM 3590 - 30 GB - 128 Track	IMS Database V15
S0186GK	US English	1/2 Inch Data Cartridge -IBM 3590 - 30 GB - 128 Track	IMS Transaction Manager V15
S0186GL	US English	1/2 Inch Data Cartridge -IBM 3590 - 30 GB - 128 Track	IMS Extended Terminal Option V15

Unlicensed documentation

IMS V15 documentation is published in IBM Knowledge Center, which can be viewed from a web browser.

The following softcopy publications are available in PDF file format to download from IBM Knowledge Center.

Title	Order number
IBM IMS V15 Program Directory	GI13-4614-01
IBM IMS V15 DB VUE Program Directory	GI13-4692-00
IBM IMS V15 TM and ETO VUE Program Directory	GI13-4690-00

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 through CBPDO and ServerPac. These customized offerings are offered for internet delivery from Shopz. Internet delivery reduces software delivery time and allows you to install software without the need to handle tapes. For more details on internet delivery, go to the Help section on the Shopz website.

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 through 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, go to the Help section on the Shopz website.

For additional information on the Product ServerPac option, see Software Announcement LP12-0371, 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

The program in this announcement is licensed as indicated in the IBM Offerings Simplification Announcement (LR89-0089).

Agreement

IBM Information Management System V15 (5635-A06) is licensed under the IBM Customer Agreement or IBM Customer Relationship Agreement

IPLA terms and conditions for IBM IMS Transaction Manager V15

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 the 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(R) 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(R), UNIX(R), 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 that 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, see the System z Software Pricing website.

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 Referenced-Based Terms, just as if IMS TM VUE were a monthly license charge IMS program. Additional charges for IBM programs with Referenced-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.

IPLA terms and conditions for IBM IMS Database Value Unit Edition V15

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 the 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 LPARs 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 customers and become the licensee of IMS Database Value Unit Edition, 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, 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 LPARs in which the Eligible Workload is deployed for use, or
2. If qualified to be deployed within a Qualified Sysplex, in any zNALC LPARs 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 Referenced-Based Terms, just as if the program were a monthly license charge IMS program. Additional charges for IBM programs with Referenced-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.

Sub-capacity terms and conditions

For each IBM Z 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 IBM Z 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 IBM Z IPLA program you selected, see the Ordering information section.

Program number	Program name	Terms
5655-TM4	IBM IMS Transaction Manager Value Unit Edition	Execution-based
5655-DS5	IBM IMS Database Value Unit Edition	Execution-based

Support lifecycle policy updates

All IMS Version 15 offerings adopt the Continuous Delivery (CD) support model. The CD support model allows IBM to make new function available to IMS customers more frequently. The new support model is implemented for IMS as follows:

• Both new function and product maintenance will be made available through PTFs, in keeping with IBM delivery mechanisms for Z software offerings. Customers should stay up to date with the installation of available PTFs to obtain the latest updates.
• Periodically, both new function and maintenance PTFs will be consolidated into a single package for ease of installation for customers migrating from prior versions. Each of these packages will carry a new release number (that is, each of these packages will have a new "V.R.M," where "V" is the version and "R" is the incremental release number for each update). An additional modification level qualifier ("M") will be used if necessary.
• Both new function and maintenance PTFs will be released in between availability of the consolidated packages mentioned above. Customers already on the current version will not need to reinstall the offering; instead, these customers can move up to the current level by applying a PTF that effects a change in the V.R.M number for tracking and reporting purposes.

- Each new consolidated package (that is, each new V.R or, if used, V.R.M) within the version offers a minimum of two years of support, plus an additional minimum of one year of support extensions.
- Some IBM products on the CD support model offer a Long Term Support Release (LTSR), a defining feature of which is that no new function is delivered on the LTSR. No LTSR is available for IMS at this time; both new function and fixes will be continuously delivered on the version. However, the minimum time frame for support offered for past versions through the enhanced lifecycle policy still applies to the version as a whole, with a minimum of five years of support for the version, plus a minimum of three years of support extensions.
- When end of service is approaching, IBM will publish an announcement about the end of service date. The effective date for end of service will be a minimum of 12 months from the date of that announcement. Support extensions are available after the effective end of service date according to the time frames referenced above.

For terms and conditions of the IBM CD support model, see Software Announcement LP16-0344, dated May 24, 2016.

Variable charges apply

No

Indexed monthly license charge (IMLC) applies

No

Location license applies

No

Educational allowance available

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

Volume orders

Not applicable.

Multi-Version Measurement

Multi-Version Measurement (MVM) Sub-Capacity charges for the most recent program version are for the combined concurrent peak utilization of the LPARs where any version of the eligible program is used. MVM Full Capacity charges for the most recent program version are for the full capacity of the machine. Program charges are waived for any older eligible versions. MVM does not extend support dates for programs withdrawn from service.

For more information about MVM, including requirements for qualification, see the MVM web page. For a list of eligible programs, see the Sub-Cap MLC web page on the IBM z Systems[(R)] Software Contracts website.

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 Value Unit Edition V15.1	5655-TM4	GC27-8870-00
IMS Database Value Unit Edition V15.1	5655-DS5	GC27-8872-00
IMS Extended Terminal Option Value Unit Edition V15.1	5655-TM4	GC27-8871-00

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

IBM Operational Support Services - Support Line

Yes

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

For all local charges, contact your IBM representative.

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