IBM MQ V9.0.5 Continuous Delivery model further extends Version 9.0.4 capabilities with innovative new functions and additional enhancements

Table of contents

Overview

The Continuous Delivery (CD) release for IBM[(R)] MQ V9.0.5 delivers more capabilities and improvements, and also fixes to the previous CD releases up through Version 9.0.4. They represent optional extensions to the Long Term Support release of MQ V9.0.0.0, which was initially available in June 2016, and is supported through fixpacks that delivered fixes since that date.

New features and enhancements for clients with MQ Advanced entitlement

- Enhancements to the previously delivered Replicated Data Queue Manager support
- New support for the MQ MFT REST administration interface
- Identification of MQ Advanced installs
- Improved performance for MQ AMS encryption on MQ Advanced for z/OS[(R)] VUE

New capabilities for both MQ base and MQ Advanced clients

- Increased security flexibility and updates
- Updates to the MQ Console
- Enhancements to syncpoint performance

The updates that are described in this announcement, and in the announcements for earlier CD releases, are not available in the MQ V9 Long Term Support release.

If clients choose the CD release, it is recommended that they regularly apply CD updates of fixes and new function as they become available. It is not recommended that clients switch back and forth between the Long Term Support Release and the CD release as capabilities are added in the two offerings on different schedules.

Key prerequisites

MQ V9.0.5 runs on a variety of operating systems. For container deployments, MQ supports Docker. The MQ Resource Adapter is compatible with application servers that support the Java[TM] EE 7.0 specification.

For details, refer to the Software Requirements section.

Planned availability date

March 16, 2018

See the Availability of national languages section for national language availability.

Description

MQ is further enhanced in the Version 9.0.5 CD release. Some of the updates and enhancements are available in the base MQ offering, and some of these features and enhancements are only available to clients with MQ Advanced entitlement.

MQ Advanced new features and enhancements include:

- Additional options for replicated data queue managers

  MQ Advanced V9.0.4 delivered a new, easy, and powerful high-availability solution for Linux$^{(R)}$ called Replicated Data Queue Managers. This capability provides the option for queue managers to be deployed across three nodes with synchronous replication of data between local storage on the nodes. In the case of a queue manager or system failure, the queue manager is automatically started on one of the other nodes.

  MQ Advanced V9.0.5 provides a new option that is suitable for a disaster recovery configuration. Replicated data queue managers, which are configured for disaster recovery, are deployed across two nodes and data is replicated either synchronously or asynchronously. This new option does not provide automatic failover of queue managers, but manual failover can be initiated when required. Disaster recovery solutions generally use asynchronous replication because they require the data to be transmitted over longer distances, where network latency might be high. The new disaster recovery option, when used with synchronous replication, can be used in environments where any loss of data during failover is unacceptable.

- Managed File Transfer (MFT) REST administration interface

  Using the MFT capabilities of MQ Advanced allow businesses to send and receive file data reliably and securely through the MQ network as MQ messages. While these messages flow through MQ as MQ messages, the use cases, administration, and monitoring needs tend to be quite different. Tracking these messages moving file data should be approached differently.

  Recent MQ CD releases benefitted from updates that added administration options by using a REST API. This release of MQ provides new REST API options for administration of MQ MFT. There is the option to list all current MFT transfers and to query the status of MFT Agents.

- MQ Advanced identification

  Increasing numbers of clients deploy MQ Advanced entitled queue managers in key parts or throughout their infrastructure. Different capabilities and features are available depending on whether a MQ queue manager is MQ Advanced entitled or just MQ base entitled. In MQ Advanced V9.0.5, MQ Advanced queue managers can identify themselves as advanced queue managers. This allows other components such as MQ clients, MQ MFT agents, Blockchain bridges, and more, to ensure they connect to a correctly entitled queue manager.

  This feature also helps clients to identify which queue manager entitlement are installed, MQ Advanced or MQ base.

New functions and enhancements available for both MQ base and MQ Advanced include:

- MQ Console updates

The MQ Console was available starting with MQ V9.0.1 and with the MQ Appliance. In this release, the MQ Console is updated to reflect the latest user interface standards, which are common with other IBM offerings, with:

- A new color palette
- New buttons
- Less visible clutter
- An overall cleaner interface

- Syncpoint performance enhancement

  Many clients use MQ as a critical part of their infrastructure where the data that is moved must be persisted to ensure it is not lost in the case of failure.

  The nature of persistent writes can lead to performance impacts on applications while waiting for log writes. This is especially true if the application puts persistent messages to a queue outside of a syncpoint. While it can be recommended to change the application to implement syncpointing, this might be difficult as the application may be owned by a third party or when changes and retesting may not be desired. If the queue is locked by an application without syncpointing, then other applications that use the same queue can be impacted.

  In Version 9.0.5, this performance impact is reduced without the need to add application syncpointing. Implicit syncpoint enables persistent messages put outside of syncpoint to perform better when multiple applications are using the same queue. To optimize performance, the default setting is to implicitly put all persistent messages in syncpoint, if two or more applications have a queue open.

- LDAP query options

  Many clients use LDAP for user ID administration. Most configurations associate users with groups that use the users' distinguished name. This allows for MQ to query membership of the LDAP group through the distinguished name.

  Some configurations associate users with groups that use the users' short name. In Version 9.0.5, MQ can query LDAP by using short names for group members.

- Enabling Advanced Message Queuing Protocol (AMQP) Service by default

  MQ is widely used to exchange data as messages between applications by using the MQ wire protocol to ensure efficient, secure, and reliable connections between applications, queue managers, and servers. This protocol provides a wide range of qualities of service and supports many different programming languages. MQ supports an alternative protocol, AMQP V1.0, to allow use of the MQ Light API. This may benefit applications that tend to be simpler and require reduced qualities of service. While support for AMQP has been available for years, clients had to turn on the AMQP listener.

  In the MQ V9.0.5 release, the AMQP listener service is now enabled by default on queue managers. This simplifies the use of the service in support of suitable applications.

- Additional enhancements for MQ Appliance

  The MQ features of the MQ Appliance stay aligned with MQ Advanced software capabilities. There are additional enhancements specific to MQ Appliance deployments. In MQ Appliance V9.0.5, the floating IP option of the MQ Appliance high availability feature is improved by the ability to make use of aggregated IP interfaces, not tying this important feature to an individual physical network port. This update could improve reliability by removing a potential single point of failure.

  For more information about MQ Appliance, see Software Announcement 217-423, dated October 24, 2017.

- Additional enhancements for MQ Advanced on z/OS Value Unit Edition (VUE)

There are two enhancements specific to MQ Advanced for z/OS VUE in Version 9.0.5. When clients use MQ Advanced Message Security (AMS), the AMS policy information is available on MQOPEN, instead of requiring a separate query. This improves performance for all users and includes those users who do not use AMS. Java Message Service and Java client connections to MQ Advanced VUE queue managers on remote z/OS systems can now use AMS.

For more information about MQ Advanced on z/OS VUE, see Software Announcement 217-417, dated October 24, 2017.

Section 508 of the US Rehabilitation Act

IBM MQ V9.0.5 is capable as of March 16, 2018, when used in accordance with associated IBM documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

U.S. Section 508 Voluntary Product Accessibility Template (VPAT) contains details on accessibility compliance.

Statement of general direction

Software Announcement 217-420, dated October 24, 2017,included a statement of direction that offers IBM MQ in an administered and hosted IBM Cloud environment. IBM intends to continue to enhance this offering by adding support for additional features and use cases.

For MQ software licenses that are deployed in containers, either in clouds or on-premises deployments, IBM intends to offer the capability to measure the size of the container, and to measure the duration of the deployment of MQ in the container. IBM intends to offer clients the ability to purchase an entitlement that is based on the container size in Virtual Processor Cores and the number of hours that MQ was deployed for in each container.

With the next release of MQ, IBM intends to initiate deployment of a new Long Term Support (LTS) release cycle. The LTS release will provide many of the features that will be delivered in the Version 9.0.x Continuous Delivery releases.

IBM intends to replace the current IBM MQ bridge for Blockchain with an implementation that is based on Hyperledger Composer interfaces.

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.

Reference information

For more information on MQ for Multiplatforms, see Software Announcement 217-420, dated October 24, 2017.

For more information about MQ Appliance, see Software Announcement 217-423, dated October 24, 2017.

For more information about MQ Advanced on z/OS VUE, see Software Announcement 217-417, dated October 24, 2017.

Availability of national languages

Description	Availability date	Language
IBM MQ V9.0.5 Continuous Delivery Release	March 16, 2018	English, Japanese, Spanish, Korean, French, Traditional Chinese, Simplified Chinese, Polish, German, Hungarian, Russian, Portuguese Brazilian, Italian, Czech

Translation information, if available, can be found at the Translation Reports website.

Program number

Program number	VRM	Program name
5724-H72	9.0.5	IBM MQ for Multiplatforms

Publications

IBM MQ V9.0 documentation is published in IBM Knowledge Center at IBM MQ Version 9.0 documentation website, which can be viewed from a web browser with internet access.

Services

Software Services

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services, contact your Lab Services Sales or Delivery Leader.

Technical information

Specified operating environment

Software requirements

The MQ Version 9.0.5 CD release has the following support:

- Operating system support for Windows™, Linux(R), AIX(R) and z/OS operating systems.
- Cloud support with Docker 1.6 or later and IBM Cloud Private. See the MQ Container example on the IBM Messaging GitHub community.
- Programming language support for Java, C, C++ and COBOL with further language binding options available on the IBM Messaging GitHub community.

Details of the software requirements are included in the IBM MQ System Requirements website.

Compatibility

Queue managers and clients in the MQ V9.0.5 CD release interoperate with queue managers and clients from current and previous levels of MQ, WebSphere(R) MQ, or MQSeries(R) products.

- The MQ Explorer runs on the Linux x86-64 and Windows platforms.
- The MQ Explorer that is supplied with MQ V9.0.5 CD release can use a client connection to connect to any supported level of MQ or WebSphere MQ on any platform.
- MQ Managed File Transfer supports file transfer to and from server and client installations at any level of WebSphere MQ File Transfer Edition.

Limitations

For additional information, refer to **Usage restrictions** in the Terms and conditions section of this announcement, or to the license information document that is available on the IBM Software License Agreement website.

IBM Electronic Support

The IBM Support Portal is your gateway to technical support. This includes IBM Electronic Support tools and resources, for software and hardware, to help save time and simplify support. The Electronic Support tools can help you find answers to questions, download fixes, troubleshoot, automate data collection, submit and track problems through the Service Request online tool, and build skills. All these tools are made available through your IBM support agreement. Read about the Electronic Support portfolio of tools on the IBM Electronic Support website.

You can also access the IBM Support Portal page and the online Service requests and PMRs tool for more support.

Planning information

Packaging

MQ V9.0.5 is distributed by electronic download.

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, which will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

Security, auditability, and control

MQ uses the security and auditability features of the host software.

The client is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

This product is only available through Passport Advantage. It is not available as shrinkwrap.

These products may only be sold directly by IBM or by authorized IBM Business Partners for Channel Value Rewards.

More information can be found on the IBM Channel Value Rewards website.

To locate IBM Business Partners for Channel Value Rewards in your geography for a specific Channel Value Rewards portfolio, go to the Find a Business Partner page.

Product group: WebSphere

Product: IBM MQ for Multiplatforms (5724-H72)

Product category: MQ Series

Passport Advantage

IBM MQ

Program name/Description	Part number
IBM MQ Per Processor Value Unit (PVU) License + SW S&S 12 Months	D55V1LL
IBM MQ Per Processor Value Unit (PVU) Annual SW S&S Renewal	E0256LL
IBM MQ Per Processor Value Unit (PVU) SW S&S Reinstatement 12 Months	D55V2LL
IBM MQ High Availability Replica Processor Value Unit (PVU) License + SW Subscription & Support 12 Months	D0GGQLL
IBM MQ High Availability Replica Processor Value Unit (PVU) Annual SW Subscription & Support Renewal	E0ALULL
IBM MQ High Availability Replica Processor Value Unit (PVU) SW Subscription & Support Reinstatement 12 Months	D0GGSLL
IBM MQ High Availability Replica Virtual Processor Core Monthly License	D1VAILL
IBM MQ Virtual Processor Core Monthly License	D1RYSLL
IBM MQ Processor Value Unit (PVU) Monthly License	D1D2FLL
IBM MQ High Availability Replica Processor Value Unit (PVU) Monthly License	D193BLL

IBM MQ Advanced

Program name/Description	Part number
IBM MQ Advanced Per Processor Value Unit (PVU) License + SW S&S 12 Months	D1GZULL
IBM MQ Advanced Per Processor Value Unit (PVU) Annual SW S&S Renewal	E0LNALL
IBM MQ Advanced Per Processor Value Unit (PVU) SW S&S Reinstatement 12 Months	D1GZVLL
IBM MQ Advanced High Availability Replica Processor Value Unit (PVU) License + SW S&S 12 Months	D1H5GLL
IBM MQ Advanced High Availability Replica Processor Value Unit (PVU) Annual SW S&S Renewal	E0LNDLL
IBM MQ Advanced High Availability Replica Processor Value Unit (PVU) SW S&S Reinstatement 12 Months	D1H5HLL
IBM MQ Advanced High Availability Replica Virtual Processor Core Monthly License	D1VAKLL
IBM MQ Advanced Virtual Processor Core Monthly License	D1RYWLL

IBM MQ Telemetry

Program name/Description	Part number
IBM MQ Telemetry per Install Annual SW S&S Renewal	E0DRHLL

IBM MQ Advanced Message Security Component

Program name/Description	Part number
IBM MQ Advanced Message Security Component Per PVU Annual SW S&S Renewal	E0DS8LL
IBM MQ Advanced Message Security Component High Availability Replica 10 PVUs Annual SW S&S Renewal	E0DS0LL

IBM MQ Managed File Transfer Component

Program name/Description	Part number
IBM MQ Managed File Transfer Service Processor Value Unit (PVU) Annual SW S&S Renewal	E0LNELL
IBM MQ Managed File Transfer Service High Availability Replica 10 PVUs Annual SW S&S Renewal	E0LNKLL
IBM MQ File Transfer Agent Install Annual SW S&S Renewal	E0LNLLL

IBM MQ Advanced for Developers

Program name/Description	Part number
IBM MQ Advanced for Developers Install Annual SW Subscription & Support Renewal 12 Months	E0MZPLL
IBM MQ Advanced for Developers Install License + SW Subscription & Support 12 Months	D1PI3LL
IBM MQ Advanced for Developers Install SW Subscription & Support Reinstatement 12 Months	D1PI4LL

Passport Advantage trade-up

Clients must have previously acquired licenses for the following precursor products to be eligible to acquire equivalent licenses of the trade-up products.

Precursor product	Trade-up product	Trade-up part number
IBM MQ Trade Up License + SW Subscription & Support 12 Months	IBM MQ Advanced Processor Value Unit (PVU)	D1GZWLL
IBM MQ High Availability Replica Processor Value Unit Trade Up License + SW Subscription & Support 12 Months	IBM MQ Advanced High Availability Replica Processor Value Unit (PVU)	D1H5ILL
IBM MQ for Linux on z Systems[R] Processor Value Unit (PVU) Trade Up License + SW Subscription & Support 12 Months	IBM MQ Advanced for Linux on z Systems Processor Value Unit (PVU)	D1H00LL
IBM MQ High Availability Replica for Linux on z Systems PVU Trade Up License + SW Subscription & Support 12 Months	IBM MQ Advanced High Availability Replica for Linux on z Systems Processor Value Unit (PVU)	D1H6ELL

Consult your IBM representative if you have any questions.

Cross-platform product for use on IBM Z Integrated Facility for Linux (IFL) engines

Order the part numbers that follow when the product is intended to run on the Linux operating system on IBM Z IFL engines. If the product is not intended to run in these environments, order from the other set of part numbers in this announcement. This set of part numbers provides the identical supply and authorization as the other set in this announcement.

IBM MQ

Program name/Description	Part number
IBM MQ for Linux on z Systems Processor Value Unit (PVU) License + SW Subscription & Support 12 Months	D55V4LL
IBM MQ for Linux on z Systems Processor Value Unit (PVU) Annual SW Subscription & Support Renewal	E0257LL
IBM MQ for Linux on z Systems Processor Value Unit (PVU) SW Subscription & Support Reinstatement 12 Months	D55V5LL
IBM MQ High Availability Replica for Linux on z Systems Processor Value Unit (PVU) License + SW Subscription & Support 12 Months	D0GGNLL
IBM MQ High Availability Replica for Linux on z Systems Processor Value Unit (PVU) Annual SW Subscription & Support Renewal	E0ALTLL
IBM MQ High Availability Replica for Linux on z Systems Processor Value Unit (PVU) SW Subscription & Support Reinstatement 12 Months	D0GGPLL
MQ High Availability Replica for Linux on z Systems Processor Value Unit (PVU) Monthly License	D193ALL
IBM MQ for Linux on z Systems Processor Value Unit (PVU) Monthly License	D1938LL
IBM MQ High Availability Replica Linux on z Systems Virtual Processor Core Monthly License	D1VAJLL
IBM MQ Linux on z Systems Virtual Processor Core Monthly License	D1RYTLL

IBM MQ Managed File Transfer

Program name/Description	Part number
IBM MQ File Transfer Agent for Linux on z Systems Install Annual SW Subscription & Support Renewal 12 Months	E0LNGLL
IBM MQ Managed File Transfer Service for Linux on z Systems Processor Value Unit (PVU) Annual SW Subscription & Support Renewal 12 Months	E0LNCLL
IBM MQ Managed File Transfer Service High Availability Replica for Linux on z Systems 10 Processor Value Unit (PVU) Annual SW Subscription & Support Renewal 12 Months	E0LNJLL

IBM MQ Advanced

Program name/Description	Part number
IBM MQ Advanced for Linux on z Systems Processor Value Unit (PVU) License + SW Subscription & Support 12 Months	D1GZYLL
IBM MQ Advanced for Linux on z Systems Processor Value Unit (PVU) Annual SW Subscription & Support Renewal 12 Months	E0LNBLL
IBM MQ Advanced for Linux on z Systems Processor Value Unit (PVU) SW Subscription & Support Reinstatement 12 Months	D1GZZLL
IBM MQ Advanced High Availability Replica for Linux on z Systems Processor Value	D1H6BLL

Program name/Description	Part number
Unit (PVU) License + SW Subscription & Support 12 Months	
IBM MQ Advanced High Availability Replica for Linux on z Systems Processor Value Unit (PVU) Annual SW Subscription & Support Renewal 12 Months	E0LNILL
IBM MQ Advanced High Availability Replica for Linux on z Systems Processor Value Unit (PVU) SW Subscription & Support Reinstatement 12 Months	D1H6CLL
IBM MQ Advanced High Availability Replica Linux on z Systems Virtual Processor Core Monthly License	D1VALLL
IBM MQ Advanced Linux on z Systems Virtual Processor Core Monthly License	D1RYZLL

IBM MQ Advanced Message Security

Program name/Description	Part number
IBM MQ Advanced Message Security Component for Linux on z Systems Processor Value Unit (PVU) Annual SW Subscription & Support Renewal	E0DS7LL
IBM MQ Advanced Message Security Component High Availability Replica for Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0DRZLL

IBM MQ for Developers

Program name/Description	Part number
IBM MQ Advanced for Developers Linux on z Systems Install Annual SW Subscription & Support Renewal 12 Months	E0MZQLL
IBM MQ Advanced for Developers Linux on z Systems Install License + SW Subscription & Support 12 Months	D1PI7LL
IBM MQ Advanced for Developers Linux on z Systems Install SW Subscription & Support Reinstatement 12 Months	D1PI8LL

Charge metric

Program name	Part number or PID number	Charge metric
IBM MQ for Multiplatforms	5724-H72	Processor Value Unit (PVU)
IBM MQ for Multiplatforms	5724-H72	Install
IBM MQ for Multiplatforms	5724-H72	Virtual Processor Core

Processor Value Unit

Processor Value Unit (PVU) is a unit of measure by which the Program can be licensed. The number of PVU entitlements required is based on the processor technology (defined within the Processor Value Unit (PVU) licensing for Distributed Software website) and the number of processors made available to the Program. IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip. A dual-core processor chip, for example, has two processor cores.

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* An Activated processor core is a processor core that is available for use in a physical or virtual server, regardless of whether the capacity of the processor core can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions.

Install

Install is a unit of measure by which the Program can be licensed. An Install is an installed copy of the Program on a physical or virtual disk made available to be executed on a computer. Licensee must obtain an entitlement for each Install of the Program.

Virtual Processor Core

Virtual Processor Core is a unit of measure by which the Program can be licensed. A Physical Server is a physical computer that is comprised of processing units, memory, and input/output capabilities and that executes requested procedures, commands, or applications for one or more users or client devices. Where racks, blade enclosures, or other similar equipment is being employed, each separable physical device (for example, a blade or a rack-mounted device) that has the required components is considered itself a separate Physical Server. A Virtual Server is either a virtual computer created by partitioning the resources available to a Physical Server or an unpartitioned Physical Server. A Processor Core (commonly called a processor or CPU) is a functional unit within a computing device that interprets and executes instructions. A Processor Core consists of at least an instruction control unit, and one or more arithmetic or logic unit. A Virtual Processor Core is a Processor Core in an unpartitioned Physical Server, or a virtual core assigned to a Virtual Server. Licensee must obtain entitlement for each Virtual Processor Core made available to the Program.

Note: Some programs may require licenses for the Program of the lesser of the sum of all virtual cores or all physical cores. In that case, the following applies. For each Physical Server, Licensee must have sufficient entitlements for the lesser of 1) the sum of all available Virtual Processor Cores on all Virtual Servers made available to the Program or 2) all available Processor Cores on the Physical Server.

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License Information number

Program name	License Information number
IBM MQ V9.0.5	L-APIG-AN9GP2
IBM MQ Advanced V9.0.5	L-APIG-ATED6L
IBM MQ Advanced for Developers V9.0.5	L-APIG-AN9GWF
IBM MQ Managed File Transfer V9.0.5	L-APIG-AN9GX4
IBM MQ Advanced Message Security V9.0.5	L-APIG-AN9GXT
IBM MQ Telemetry V9.0.5	L-APIG-APDGHA
IBM MQ Advanced High Availability Replica V9.0.5	L-APIG-AN9GVW
IBM MQ MFT High Availability Replica V9.0.5 and IBM MQ AMS High Availability Replica V9.0.5	L-APIG-APDFRC
IBM MQ High Availability Replica V9.0.5	L-APIG-AQRDWJ

See the License Information documents page on the IBM Software License Agreement website for more information.

Limited warranty applies

Yes

Limited warranty

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

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Program technical support

Technical support of a program product version or release will be available for a minimum of two years from the general availability date, as long as your Software Subscription and Support (also referred to as Software Maintenance) is in effect.

This technical support allows you to obtain assistance (by telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Subscription and Support (Software Maintenance) also provides you with access to versions, releases, and updates (CD releases, Long Term Support Releases or fixes) of the program. You will be notified, through an announcement letter, of discontinuance of support with six months' notice. If you require additional technical support from IBM,

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If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

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Volume orders (IVO)

No

Passport Advantage applies

Yes, information is available on the Passport Advantage and Passport Advantage Express(R) website.

Usage restrictions

Yes

This offering is subject to usage restrictions.

See the License Information documents for details.

Software Subscription and Support applies

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While your Software Subscription and Support is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. IBM provides assistance by telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your users.) IBM provides Severity 1 assistance 24 hours a day, 7 days a week. For additional details, see the IBM Software Support Handbook. Software Subscription and Support does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under the applicable agreements.

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For additional information about the International Passport Advantage Agreement and the IBM International Passport Advantage Express Agreement, go to the Passport Advantage and Passport Advantage Express website.

IBM Operational Support Services - SoftwareXcel

No

Variable charges apply

No

Educational allowance available

Not applicable.

Sub-capacity pricing terms and conditions

To be eligible for sub-capacity pricing, the machine on which the eligible products are installed and running must be eligible for sub-capacity pricing terms and conditions. Software pricing, at less than full machine capacity for eligible products, apply when running:

- AIX 5L™ V5.1, or later, on an IBM System p 690 or equivalent partition-capable operating system and machine.
- OS/400(R) V5R1, or later, running on an IBM System i(R).
- Linux running in an LPAR under AIX 5L V5.1, OS/400 V5R1, or in a partition on an equivalent partition-capable operating system and server.

Sub-capacity pricing for eligible products is based on the current program pricing methodology, but the number of processors will be determined based on the sum of processors for all partitions where the program is defined (used). To obtain pricing at less than full machine capacity for eligible products, you are required to:

- Install and use, when available, IBM's license use management program, which installs with eligible IBM programs.
- Install available updates to the operating system and eligible products such that license use can be accurately managed.
- Determine if the use of sub-capacity pricing terms results in a reduced requirement for entitlements; you can reallocate the entitlement difference by distributing entitlements across a larger or different set of systems, or reserve them for future growth. There will be no refunds for these freed up entitlements. Subscription, Software Maintenance and support volumes, and entitlements for existing contracts will continue at the same levels as the acquired licenses.

Statement of good security practices

IT system security involves protecting systems and information through intrusion 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 regulatory compliant, 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.

IBM Electronic Services

Electronic Service Agent™ and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to organizations that have IBM Systems. The IBM Electronic Service Agent tool is a no-additional-charge tool that proactively monitors and reports hardware events, such as system errors, performance issues, and inventory. The Electronic Service Agent tool can help you stay focused on your company's strategic business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues. Servers enabled with this tool can be monitored remotely around the clock by IBM Support, all at no additional cost to you.

Now integrated into the base operating system of AIX V5.3, AIX V6.1, and AIX V7.1, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu, simply type smitty esa_main, and select Configure Electronic Service Agent. In addition, ESA now includes a powerful web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, go to the IBM Electronic Support website.

The IBM Electronic Support portal is a single internet entry point that replaces the multiple entry points traditionally used to access IBM internet services and support. This portal enables you to gain easier access to IBM resources for assistance in resolving technical problems. The My Systems and Premium Search functions make it even easier for organizations that are Electronic Service Agent tool-enabled to track system inventory and find pertinent fixes.

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Security: The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM. The Electronic Service Agent tool is designed to securely transmit either through the internet (HTTPS or VPN) or modem to provide organizations a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into an organization's system.

For additional information, go to the IBM Electronic Service Agent website.

More accurate reporting: Because system information and error logs are automatically uploaded to the IBM Support Center in conjunction with the service request, you are not required to find and send system information, decreasing the risk of misreported or misdiagnosed errors. Once inside IBM, problem error data is run through a data knowledge management system and knowledge articles are appended to the problem record.

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Prices

The prices are unchanged by this announcement.

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