



IBM WebSphere MQ V7.0 is enhanced with increased availability, security, and governance

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At a glance

WebSphere® MQ V7.0 further enhances IBM® SOA¹ Messaging with additional features that can lower the skills and resources needed to improve messaging availability, improve the resilience of client applications, increase visibility and control of configuration changes, make it easier to apply SOA governance to messaging and connected applications, and improve productivity for .NET developers. Enhancements include:

- Multi-instance queue managers for higher availability
- Automatic client reconnect for higher availability
- Increased visibility and auditability of configuration changes
- Enhanced SSL security support
- Service Definition wizard
- IBM Message Service Client for .NET developers
- Microsoft® Windows® Communication Framework support for .NET developers

¹ Service oriented architecture

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: YE001).

Overview

WebSphere MQ V7.0 delivers SOA Messaging with a robust transport that enables flexible and reliable messaging for applications, Web services, and Web 2.0. It also delivers market-leading Java™ Message Service (JMS) and publish and subscribe messaging.

WebSphere MQ is the market-leading message-oriented middleware product that delivers a reliable, proven messaging backbone for almost 10,000 organizations of different sizes, spanning many industries around the world.

In June 2008, WebSphere MQ V7.0 delivered significant enhancements to SOA Messaging including JMS and publish-subscribe ease-of-use and performance, new message queue interface (MQI) capabilities, and HTTP bridging for Web 2.0 applications. WebSphere MQ V7.0.1 now delivers further enhancements. You can obtain these enhancements in several ways:

- If you are currently using WebSphere MQ V6.0, migrate directly to WebSphere MQ V7.0.1 without migrating to V7.0 first.
- If you already use WebSphere MQ V7.0, upgrade to V7.0.1 by applying a refresh pack update as part of your normal service processes. This option is not available on the IBM i platform.
- In addition, effective from the availability date, the existing WebSphere MQ V7.0 product media and download packages provided via IBM Passport Advantage® includes the WebSphere MQ V7.0.1-level code.

WebSphere MQ V7.0.1 queue managers and clients interoperate with queue managers and clients from any previous level of WebSphere MQ or MQSeries® products. You may need to upgrade previous queue managers, clients, or both to take advantage of new features in WebSphere MQ V7.0.1.

For details about WebSphere MQ V7.0, refer to Software announcement [208-068](#), dated April 1, 2008.

Key prerequisites

For details, refer to the [Hardware requirements](#) and [Software requirements](#) sections.

Planned availability date

- August 28, 2009 (electronic software delivery)
- September 25, 2009 (media and documentation)

Description

WebSphere MQ delivers SOA Messaging. This modification enhances the V7.0 release with new features.

Multi-instance queue managers

In today's 24 x 7 world, the business impact of outages to applications, networks, and hardware can be severe and far-reaching. Similarly, the SOA Messaging that connects these applications and services also needs to meet enterprise demands for high availability. High availability (HA) is a fundamental way to maximize the resilience of an SOA and requires that it can rapidly and completely recover from outages -- especially unplanned ones.

WebSphere MQ V7.0.1 can help increase the availability of messaging out-of-the-box. This software-based approach to increasing availability does not require specialist skills or hardware. Automatic failover is provided by multi-instance queue managers in the event of an unplanned outage. Controlled switchover is also provided for planned outages, such as applying software maintenance.

With this new availability option, the messages and data for a multi-instance queue manager are held on networked storage accessed via a modern network file system protocol, such as Network File System (NFS) version 4. Multiple instances of this queue manager can then be defined and started on different machines, with one active instance and one standby instance. The active queue manager instance processes messages and accepts connections from applications and other queue managers.

It holds a lock on the queue manager data to ensure that there is only one active instance of the queue manager. The standby queue manager instance periodically checks whether the active queue manager instance is still running. If the active queue manager instance fails or is no longer connected, the standby instance acquires the lock on the queue manager data as soon as it is released, performs

queue manager restart processing, and becomes the active queue manager instance.

The multi-instance queue manager feature does not use an HA Coordinator and provides a simple alternative to platform-specific hardware-based facilities such as High Availability Cluster Multi-Processing (IBM HACMP™) on the IBM AIX® platform and similar HA Coordinators available for other hardware platforms.

For highest levels of messaging availability, use of platform-specific hardware-based mechanisms with HA Coordinators like HACMP is recommended. HA Coordinators provide more robust monitoring and more flexible coordination and restart capabilities.

WebSphere MQ V7.0.1 replaces the need for SupportPac™ MC91 -- High Availability for WebSphere MQ on UNIX® platforms -- which is planned for withdrawal.

Automatic client reconnect

WebSphere MQ V7.0.1 enables client applications to automatically reconnect to their queue manager, or to alternatives, in the event of incidents such as network failures or during planned outages. Rather than applications having to determine whether their connection has been broken and attempt to reconnect, the WebSphere MQ V7.0.1 client library provides the reconnection logic to detect failures and retry connections, either to the same queue manager or to an alternative queue manager. The client application can specify a list of alternative queue managers. Recovery of connections, where possible, is entirely transparent to the client applications. Applications can choose to register with an event handler if these want to be notified when reconnections and other related events occur.

When there is a failure or outage, if the connection to the original queue manager cannot be recovered, WebSphere MQ V7.0.1 connects the application to a suitable alternative queue manager, establishes a connection with it, reopens any objects in use by that application such as queues or subscriptions in use, and restores any connection handles in use. The client application can resume activity without noticing any failure had occurred. WebSphere MQ V7.0.1 will continue to attempt to reconnect until it is successful or until the maximum retry duration is exceeded.

Reconnection settings can be configured to tune or customize the frequency or duration of reconnection attempts. To minimize unnecessary network traffic, the frequency of reconnection attempts decrease exponentially over time, becoming gradually less frequent than initially. Via options, client applications can specify whether reconnection should only be to the original queue manager, or to any queue manager, provided it has all the required objects and queue definitions.

To enable automatic client reconnection, client applications need to take advantage of new options available to existing commands that specify when and how reconnection attempts should be made. These options are available to MQI and JMS users. Both the WebSphere MQ clients and servers involved in any given connection need to be updated to WebSphere MQ V7.0.1 level to enable this automatic reconnection feature.

Increased visibility and auditability of configuration changes

WebSphere MQ V7.0.1 provides increased visibility into configuration changes made to MQ objects by issuing notifications whenever configuration changes are made. These notifications are generated when an MQ object is created, changed, or deleted and can also be generated by explicit requests. Configuration events provide details about how the configuration change was made such as: the queue manager from where the configuration change was made, the ID of the user who made the change, the mechanism used, the object name and type that was changed, and the values of the attributes of that object.

Events related to changes are issued before the change is made, and after. Configuration event messages can be accessed on the SYSTEM.ADMIN.CONFIG.EVENT queue. This configuration events feature was

previously only available in WebSphere MQ for z/OS®; it is now available for supported distributed platforms.

WebSphere MQ V7.0.1 provides increased visibility into administrative actions by issuing notifications whenever commands are executed. These command events can be issued when MQ Script (MQSC) or Programmable Command Format (PCF) commands are executed. Command events provide details about how the command was executed such as: the queue manager from where the command was executed, the ID of the user that executed the command, the mechanism, and the message sent to issue the command where applicable. Command events can be accessed on the SYSTEM.ADMIN.COMMAND.EVENT queue. This command events feature was previously only available in WebSphere MQ for z/OS; it is now available for supported distributed platforms.

WebSphere MQ Programmable Command Format (PCF) commands allow administration tasks to be performed by an administration program that sends and receives WebSphere MQ messages of a special format. In this way you can create queues and process definitions, and change queue managers, from a program. PCF request messages are sent to the queue manager's command queue, where they are processed by the command server and replies returned to the designated reply-to queue. WebSphere MQ Script Commands (MQSC) can be executed interactively or from ASCII text files. MQSC can be used to manage queue manager objects, including queue managers, queues, process definitions, namelists, channels, client connection channels, listeners, services, and authentication information objects. PCF and MQSC commands provide choice in how to execute a similar same range of configuration functions.

Enhanced SSL security support

WebSphere MQ V7.0.1 enhances its support for the industry security standard Secure Sockets Layer (SSL) by taking advantage of new alternative approaches to certificate management. Online Certificate Status Protocol (OCSP) is an Internet protocol used for obtaining the revocation status of an X.509 digital certificate. OCSP provides an alternative to Certificate Revocation Lists (CRL). WebSphere MQ V7.0.1 provides support for revocation checking of SSL certificates using OCSP. OCSP can help simplify certificate checking. This support enables WebSphere MQ networks to remain current with the latest SSL certificate management techniques.

Service Definition wizard

WebSphere MQ V7.0.1 provides an easy way to turn WebSphere MQ applications into SOA services. This can help manage the life cycle of connected applications and MQ objects using SOA governance.

Many organizations have collections of unmanaged or undocumented applications that are not well known or well understood and not widely available for use. Centralized cataloging and management of these applications is difficult, even when WebSphere MQ provides SOA Messaging that links all these applications.

The inability to govern the life cycle of these applications and the lack of understanding of interdependencies between them can increase maintenance costs and result in project delays. Any changes to such applications are also risky because the dependencies on various users of the application are not well understood.

IBM provides a Service Definition that can be used to describe applications connected to WebSphere MQ and objects as SOA services. The WebSphere MQ Service Definition uses Internationalized Resource Identifiers (IRIs) and Web Services Description Language (WSDL) to describe these services. The IRI Specification defines addresses for referencing WebSphere MQ applications, queues, and topics in a way similar to Web sites. The WSDL Binding Specification defines extensions for WSDL that describe WebSphere MQ applications, including its connections, the queues or topics it uses, its message exchange pattern (request-response or one-way), and the quality of service and message formats it uses.

WebSphere MQ V7.0.1 provides a graphical wizard that can generate these WSDL descriptions. This Service Definition wizard can reduce the time, effort, and skills

needed to turn WebSphere MQ applications into SOA services. The wizard is integrated into WebSphere MQ Explorer graphical tooling as an Eclipse plug-in. WebSphere MQ Service Definitions can be created for applications that use either SOAP or native (non-SOAP) messages. Therefore, this Service Definition can be used to enable non-Web services to be governed alongside Web services as part of an SOA governance strategy.

When generated, these WebSphere MQ Service Definitions can be imported into SOA repositories, including WebSphere Service Registry and Repository. When in WebSphere Service Registry and Repository, these MQ services are now visible across a service oriented architecture, helping promoting governance and reuse.

WebSphere Service Registry and Repository can help make controlled changes to MQ services by fully understanding the impact of your changes on its consumers and notifying the consumers when changes are made. Architects can ensure quality of MQ services by governing them just like any other service in your SOA, making sure best practices are followed and relevant policies are consistently enforced. Consumers can run queries -- for example, to determine which applications are using which MQ queues, or which ones are using persistent messages. This enables architects and service consumers to find services based on metadata associated with WebSphere MQ artifacts. Architects can use a graphical view to explore MQ service structure with its queue managers, queues, operations, and messages. This can help determine the impact of changes or analyze service dependencies for potential reuse.

WebSphere MQ services can also be enriched with associate policies and other information. This information is readily available to all the potential consumers of this MQ service helping determine how and or when to use the service. When changes are made, all subscribers of the service can be notified in a timely manner.

Cataloging WebSphere MQ applications as SOA services in WebSphere Service Registry and Repository is a key step in developing a better understanding of MQ solutions. It can help IT managers and architects to reduce maintenance costs for MQ applications, increase the validity and awareness of their MQ applications, and evaluate the compliance of these MQ applications with naming conventions and best practices. The Service Definition wizard was previously made available in WebSphere MQ Fix Pack V7.0.0.1.

IBM Message Service Client for .NET developers

WebSphere MQ V7.0.1 adds an IBM Message Service Client for .NET that provides .NET developers with a programming interface for messaging that is consistent with JMS and can be used with C#, managed C++, J#, and Visual Basic .NET applications running in the Microsoft .NET framework. It also provides the new client features and qualities of service that were introduced in WebSphere MQ V7.

IBM Multi-Language Message Service provides a choice of programming interfaces for messaging that is consistent with the industry-standard JMS, but available in more languages than Java. IBM Multi-Language Message Service is often referred to as XMS, where "X" stands for "many" programming languages.

Message Service Client for .NET was previously available in Support Pack IA9H.

Microsoft Windows Communication Framework support for .NET developers

The Windows Communication Framework (WCF) support enables use of WebSphere MQ as a custom channel that is fully-managed and integrated, making it easier for .NET developers to use its proven, multiplatform transport to move SOAP messages between Web services.

WCF offers .NET programmers a service-oriented programming model built on a layered architecture. An extensible channel layer underpins WCF, providing untyped asynchronous messaging capabilities to the upper layers. The WebSphere MQ custom channel plugs into this low-level channel architecture, giving seamless integration between WCF and WebSphere MQ, and allowing .NET developers to use

familiar WCF interfaces while taking advantage of WebSphere MQ's proven, multi-platform transport to move SOAP messages between Web services.

The WebSphere MQ custom channel allows Windows applications to communicate with Web services deployed to WebSphere MQ V6 or V7 using the SOAP feature, as well as services deployed to WebSphere Application Server and IBM CICS® using the SOAP over JMS transport.

Section 508 of the U.S. Rehabilitation Act

WebSphere MQ is capable as of September 25, 2009, when used in accordance with IBM's associated 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. A U.S. Section 508 Voluntary Product Accessibility Template (VPAT), containing details on the products accessibility compliance, can be requested on the following Web site

http://www.ibm.com/able/product_accessibility/index.html

Product positioning

The WebSphere MQ family delivers the universal messaging backbone for SOA connectivity. It connects new and existing applications, as well as Web services, with reliable messaging. WebSphere MQ is a first step to SOA as a transport layer to underpin an ESB. It delivers guaranteed, reliable messaging -- as well other qualities of service -- offering choice in the class of delivery.

WebSphere MQ supports industry-standard JMS messaging. It enables simple, RESTful access from Web 2.0 to core back-end applications. WebSphere MQ integrates virtually any commercial IT system with support for more than 80 platform configurations. It integrates JEE applications, .NET applications, CICS, IMS™, DB2®, and packaged applications.

WebSphere MQ can help organizations get more from their IT investments through a reliable and flexible integration backbone for exchanging messages between applications and Web services.

- WebSphere MQ, the core of application integration, is the reliable, proven messaging backbone for SOA connectivity, as the universal, multipurpose data transport. It connects virtually any commercial IT system, with support for more than 80 platform configurations. WebSphere MQ supports industry-standard JMS messaging and includes a choice of APIs. WebSphere MQ interoperates with the JMS messaging services embedded in WebSphere Application Server, extending its reach to non-JEE environments. WebSphere MQ is a flexible connectivity solution that can grow incrementally with changing business needs.
- WebSphere MQ for z/OS exploits the platform-specific capabilities of the IBM System z® platform to deliver a messaging powerhouse.
- WebSphere MQ for HP OpenVMS, WebSphere MQ for HP NonStop Server, and MQSeries for z/VSE™ all extend the reach of WebSphere MQ to these specific computing platforms.
- WebSphere MQ File Transfer Edition adds file-specific features to the proven WebSphere MQ transport. It delivers a managed file transfer solution that enables the movement of files between IT systems with reliability and without the need for programming.
- WebSphere MQ Extended Security Edition expands the industry-standard security offered by WebSphere MQ with end-to-end data protection for your applications. It enables enterprise-wide, remote management of security policies on your MQ network and can be deployed to existing production environments without changes to existing WebSphere MQ applications.
- WebSphere MQ Low Latency Messaging (on Linux®, Microsoft Windows, and Solaris platforms) extends the WebSphere MQ product family with low-latency, high-throughput delivery. It is optimized for the very high-volume, low-latency

requirements typical of financial markets firms and other industries where speed of data delivery is paramount.

The WebSphere portfolio provides additional Connectivity capabilities that can build on, and take advantage of, the SOA Messaging provided by WebSphere MQ:

- WebSphere Service Registry and Repository provides an SOA Repository that can help publish, find, enrich, manage, and govern services and policies in your SOA. Using the MQ Service Definition, WebSphere Service Registry and Repository can now be used to govern the lifecycle of MQ applications and messaging services in the same way as for other SOA services.
- WebSphere Message Broker is an ESB built for universal connectivity and transformation in heterogeneous IT environments. It builds on the WebSphere MQ messaging layers with ESB capabilities that add transformation, intelligent routing, and information flow modelling.
 - WebSphere Message Broker Starter Edition is an entry-level starting point to deploy an ESB with the ability to grow as your business needs increase.
 - WebSphere Message Broker for Remote Adapter Deployment enables deployment of adapters with a compact and efficient runtime at an affordable price.
- WebSphere ESB leverages Web services standards and builds on the embedded messaging in WebSphere Application Server. WebSphere MQ extends the reach of this ESB to non-JEE environments and a broader range of platforms.
- WebSphere DataPower® Integration Appliance XI50 offers an ESB in an appliance form factor. It is a 1U (1.75-in thin) rack-mountable network device capable of transforming between disparate message formats, including binary, legacy, and XML, and providing message routing and security. XI50 delivers client connectivity into the WebSphere MQ backbone.
- WebSphere Partner Gateway enables trading partner B2B integration. It provides centralized and consolidated B2B trading partner and transaction management to enable and manage process and data integration with trading partners. It supports standards-based transport protocols such as EDIINT AS1, AS2 or AS3, RosettaNet RNIF 1.1 and 2.0, cXML, CIDX Chem eStandards 4.0, ebXML Messaging Service (ebMS) 2.0 to support the connectivity needs of various trading partners, and FIPS 140-2 enablement to be compliant with the FIPS standard.
- WebSphere DataPower B2B Appliance XB60 provides purpose-built B2B hardware that supports AS2 and AS3 messaging and trading partner profile management in a high-performance demilitarized zone (DMZ)-ready appliance.
- WebSphere DataPower Low Latency Appliance XM70 is a purpose-built Low Latency Messaging hub for simplified deployment, content-based routing and extreme performance.
- WebSphere Transformation Extender is a universal data transformation and validation engine. It helps tackle the challenges of integrating enterprise systems and information with a codeless, graphical approach to development.
- WebSphere Adapters deliver generic technology and business application adapters with wizards that quickly and easily service enable legacy applications, ERP, HR, CRM, and supply chain systems.

In addition, the IBM Tivoli® portfolio offers systems management for large-scale WebSphere MQ solutions. IBM Tivoli OMEGAMON® XE for Messaging can help improve the availability and performance of WebSphere MQ solutions. It can identify common problems and automate corrective actions, using predefined industry best-practice situations, while monitoring key WebSphere MQ metrics.

IBM Tivoli OMEGAMON XE for Messaging can help improve management of Service Level Agreements (SLAs) by monitoring availability and capacity using real-time and historical data analysis. Out-of-the box capabilities, such as auto-discovery and monitoring of complex WebSphere MQ environments, can improve IT staff productivity and reduce administration costs.

In addition, SupportPac product extensions offer additional function available as a download from the Internet. Visit

<http://www.ibm.com/webspheremq>

Program number

Program number	VRM	Program name
5724-H72	7.0.0	webSphere MQ

Education support

IBM training provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers are on the IBM training Web site

<http://www.ibm.com/services/learning/>

Call IBM training at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Education support will be provided for the product in this announcement. Visit

<http://www.ibm.com/software/integration/wmq/>

Offering Information

Product information is available via the Offering Information Web site

<http://www.ibm.com/common/ssi>

Also, visit the Passport Advantage Web site

<http://www.ibm.com/software/passportadvantage>

Publications

No publications are shipped with this product.

A printed Quick Start Guide is shipped with the product. Online product documentation is integrated within the product and is also supplied on the Quick Start CD-ROM.

The IBM Publications Center

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

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the U.S.) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries.

Technical information

Specified operating environment

Hardware requirements

For full and latest details, visit

<http://www.ibm.com/software/integration/wmq/requirements/index.html>

AIX

64-bit IBM pSeries® systems only, capable of running the required level of a compatible operating system with enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ, the access methods and the application programs.

Any hardware capable of running other trademarked AIX systems from IBM or other vendors that have passed a set of certification tests for compliance with the AIX application binary and programming interfaces.

IBM I5/OS

IBM System i® processors, capable of running the required level of a compatible operating system with enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ, the access methods, and the application programs.

HP-UX Itanium®

Any hardware that is explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software, and any associated applications unmodified.

HP-UX PA-RISC

64-bit systems only, capable of running the required level of a compatible operating system with enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ, the access methods, and the application programs.

Linux on IBM System x® (32-bit)

x86 PC hardware, including x86-64 processors, capable of running the required level of a compatible operating system with enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ, the access methods and the application programs.

Linux on IBM System x (64-bit)

AMD64, EM64T, and compatible processors: any hardware that is explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software, and any associated applications unmodified.

Linux on IBM System p®

64-bit System i and System p IBM POWER® processor-based systems only, capable of running the required level of a compatible operating system with enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ, the access methods, and the application programs.

Linux on IBM System z

IBM System z9® or IBM eServer™ (or equivalent) 64-bit: any hardware that is explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software, and any associated applications unmodified.

Solaris on x86-64

AMD64, EM64T, and compatible processors: any hardware that is explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software, and any associated applications unmodified. Sun Solaris operating environment: 64-bit Sun SPARC systems only, capable of running the required level of a compatible operating system with enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ, the access methods, and the application programs.

Solaris SPARC

64-bit Sun SPARC systems only, capable of running the required level of a compatible operating system with enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ, the access methods, and the application programs.

Microsoft Windows

X86 and x86-64 (also known as x64) technology-compatible PC hardware, capable of running the required level of a compatible operating system with enough storage to meet the combined requirements of the programming prerequisites, WebSphere MQ, the access methods, and the application programs. Note that Itanium 64-bit is not supported.

Software requirements

For full and latest details, visit

<http://www.ibm.com/software/integration/wmq/requirements/index.html>

AIX

Operating systems

- AIX 5.3 Technology Level 04 or Technology Level 05 plus SP2 or later, and the appropriate firmware
- AIX 6.1

For C/C++ applications

- IBM C for AIX V6.0
- IBM XL C Enterprise Edition for AIX v7.0
- XL C Enterprise Edition for AIX v8.0
- XL C Enterprise Edition for AIX v9.0 ²
- XL C Enterprise Edition for AIX v10.1
- IBM VisualAge® C++ Professional for AIX V6.0
- XL C/C++ Enterprise Edition for AIX v7.0
- XL C/C++ Enterprise Edition for AIX v8.0
- XL C/C++ Enterprise Edition for AIX v9.0 ²
- XL C/C++ Enterprise Edition for AIX v10.1

² The minimum level of IBM XL C/C++ Enterprise Edition for AIX v9.0 is 9.0.0.3.

For COBOL applications

- IBM COBOL Set for AIX V2.0 (32-bit applications only)
- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- IBM 32-bit SDK for AIX, V1.4.2
- IBM 32-bit SDK for AIX, V5³
- IBM 32-bit SDK for AIX, V6³

64-bit:

- IBM 64-bit SDK for AIX, V1.4.2

- IBM 64-bit SDK for AIX, V5 ³
- IBM 64-bit SDK for AIX, V6 ³

SOAP support

- IBM 32-bit Java SDK for AIX, V1.4.2
- IBM 32-bit Java SDK for AIX, V5
- IBM 32-bit Java SDK for AIX, V6
- Apache Axis V1.4 (supplied with WebSphere MQ)

Transactions managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- IBM TXSeries® V6.1 and V6.2^{3,4}
- TXSeries V7.1 ^{3,4}
- BEA Tuxedo V9.1

3 This requires either AIX 5.3 TL6 SP4 plus APAR IZ10231 or AIX 6.1. APAR IZ10231 is available in AIX 5.3 Technology Level 6 Service Pack5 (AIX 5.3 TL6-SP5, TL7, 610).

4 The resiliency feature of TXSeries V6.1, V6.2, or V7.1 is not supported. XA Resiliency feature of TXSeries V6.1, V6.2, V7.1 does not work with WebSphere MQ as a Resource Manager.

Application servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported ⁵

5 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Resource Managers (when WebSphere MQ is the Transaction Manager)

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- IBM DB2 V9.1 for Linux, UNIX, and Windows⁶
- DB2 V9.5 for Linux, UNIX, and Windows⁶

- IBM Informix® Dynamic Server (IDS) V10 with Client SDK V2.90 ⁷
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ⁷
- Oracle 10g Release 2
- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15⁷

6 Only 64-bit DB2 instances can be used with 64-bit WebSphere MQ.

7 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- IBM Communications Server for AIX V6.3 (SNA)
- TCP/IP (IPv4 and IPv6 provided by the operating system)

Versions of products or components shipped with the product

JDK:

- IBM 32-bit SDK for AIX, V5
- IBM 64-bit SDK for AIX, V5

GSKit:

- IBM Global Security Kit V7D (32-bit)
- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Mozilla 1.7
- Firefox 1.5, Firefox 2.0
- Konqueror (UI base mode only)

Supported application servers for the WebSphere MQ Bridge for HTTP

- WebSphere Application Server V6.0.2.1 or later
- WebSphere Application Server V7 or later
- WebSphere Application Server Community Edition V1.1 or later
- WebSphere Application Server Community Edition V2.1 or later

Multi-instance queue managers

When using NFS on AIX v5.3, APAR IY92300 is required.

For multi-instance queue managers, you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System™ (GPFS™) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

IBM i5/OS®

Operating systems

- IBM i5/OS V5R3M0 plus PTF SI21688
- i5/OS V5R4M0
- i5/OS V6R1M0 ⁸

8 Refer to Technote Details for WebSphere MQ V7 on IBM i V6.1.

For C/C++ applications

- Integrated Language Environment® facilities are provided as part of WebSphere Development Studio for IBM System i
- WebSphere Studio Development Suite for System i 5722WDS
- IBM ILE C: 5722WDS Option 51
- ILE C++: 5722WDS Option 52

For COBOL applications

- Integrated Language Environment facilities are provided as part of WebSphere Development Studio for IBM System i
- WebSphere Studio Development Suite for System i 5722WDS
- ILE COBOL: 5722WDS Option 41

For Java applications using the WebSphere MQ classes for Java or JMS

- IBM Developer Kit for Java option 6 with JDK V1.4.2. Option 6 of product 5722JV1 *Base
- IBM Developer Kit for Java option 6 with JDK 1.5 (V5.0). Option 7 of product 5722JV1 *Base

For RPG applications

- Integrated Language Environment facilities are provided as part of WebSphere Development Studio for IBM System i
- WebSphere Studio Development Suite for System i 5722WDS
- IBM ILE RPG: 5722WDS Option 31

SOAP support

- Not applicable

Transactions Managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- IBM CICS Transaction Server for i5/OS

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- Other application server environments may be supported ⁹

⁹ For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when WebSphere MQ is the Transaction Manager)

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- DB2 Universal Database™ provided by the level of operating system

Connectivity

- SNA (provided with the operating system)
- TCP/IP (provided with the operating system); the IP V6 feature support is also provided

For SSL, the following are mandatory:

- 5722SS1 Option 34: Digital Certificate Manager
- 5722AC3 *BASE: Crypto Access Provider 128-bit
- 5722DG1 *BASE: IBM HTTP Server to manage certificates through DCM

Versions of products or components shipped with the product

- JDK: Not applicable. Provided with the operating system.
- GSKit: Not applicable. SSL is provided with the operating system.

Supported application servers for the WebSphere MQ Bridge for HTTP

- WebSphere Application Server V6.0.2.1 or later
- WebSphere Application Server V7 or later

HP-UX Itanium

Operating systems

- HP-UX 11i V2 (11.23) for IPF
- HP-UX 11i V3 (11.31) for IPF¹⁰

¹⁰Before installing on HP-UX 11i V3 (11.31) see technote 1270591.

For C/C++ applications

- For applications using the WebSphere MQ C++ classes, the standard runtime is supported.
- HP C/ANSI Developer Bundle for HP-UX 11i2
- HP aCC A.06.12
- HP aCC A.06.13
- HP aCC A.06.14
- HP aCC A.06.15
- HP aCC A.06.16

For COBOL applications

- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

pthread cumulative patch PHCO_34718 is required to resolve an intermittent core dump when running Java applications. The ID of the problem record is JAGaf78055.

32-bit

- HP-UX IPF Software Development Kit for the Java 2 platform, V1.4.2
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V1.4.2 for 32-bit Itanium^{11,12}
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 for 32-bit Itanium (SR1 or above)¹²

64-bit

- HP-UX IPF Software Development Kit for the Java 2 platform, V1.4.2
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V1.4.2 for 64-bit Itanium^{11,12}
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 for 64-bit Itanium (SR1 or above)¹²

11 Only if the JDK is supplied with another IBM product.

12 FIPS compliance is only supported on IBM adapted SDKs.

SOAP support

- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V1.4.2 for 32-bit Itanium
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 for 32-bit Itanium (SR1 or above) (32-bit only)
- HP JDK for JSE HP-UX 11i platform, adapted by IBM for IBM Software, V6 for 32-bit Itanium
- Apache Axis V1.4 (supplied with WebSphere MQ)

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Transactions Managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- TXSeries V6.1 and V6.2¹³
- TXSeries V7.1¹³
- BEA Tuxedo V9.1
- BEA Tuxedo V10.3

13 The resiliency feature of TXSeries V6.1, V6.2, and V7.1 is not supported. The XA Resiliency feature of TXSeries V6.1, V6.2, and V7.1 does not work with WMQ as a Resource Manager.

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1

- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported ¹⁴

14 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when WebSphere MQ is the Transaction Manager)

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- DB2 V9.1 for Linux, UNIX, and Windows¹⁵
- DB2 V9.5 for Linux, UNIX, and Windows¹⁵
- Informix Dynamic Server (IDS) V10 with Client SDK V2.90 ¹⁶
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ¹⁶
- Oracle 10g Release 2
- Oracle 11g
- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15 ¹⁶

15 Only 64-bit DB2 instances can be used with 64-bit WebSphere MQ.

16 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- HP SNAplus2 Version 7 (SNA)
- TCP/IP (provided by the operation system); IPv6 feature support is available with HP's Transport Optional Upgrade Release (TOUR)

Versions of products or components shipped with the product

JDK

- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 for 32-bit Itanium
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 for 64-bit Itanium

GSKit

- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Mozilla 1.7
- Firefox 1.5, Firefox 2.0
- Konqueror (UI base mode only)

Multi-instance queue managers

ONC B.11.31.08 required for multi-instance queue manager support.

For HP-UX 11.31, libc cumulative patch PHCO_36900 or superseding patch is required.

For multi-instance queue managers you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System (GPFS) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

HP-UX PA-RISC

Operating systems

- HP-UX 11i V2 (11.23)
- HP-UX 11i V3 (11.31) ¹⁷

17 Before installing on HP-UX 11i V3 (11.31) see technote 1270591.

For C/C++ applications

- For applications using the WebSphere MQ C++ classes, the standard runtime is supported.
- HP C/ANSI Developer Bundle for HP-UX 11i2
- HP aCC A.03.65¹⁸
- HP aCC A.03.67¹⁸
- HP aCC A.03.70¹⁸
- HP aCC A.03.73¹⁸
- HP aCC A.03.74¹⁹
- HP aCC A.03.77
- HP aCC A.03.80

18 Supported on HP-UX 11i V2 only.

19 Supported on HP-UX 11i V3 only.

For COBOL applications

- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- HP-UX Software Development Kit for the Java platform and JDK, V1.4.2 32-bit and 64-bit)
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V1.4.2 ^{20,21}
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 (SR1 or above) ²¹

64 bit:

- HP-UX Software Development Kit for the Java platform and JDK, V1.4.2 (32-bit and 64-bit)
- HP 64-bit SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V1.4.2 for 64-bit PA-RISC ^{20,21}
- HP 64-bit SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 for 64-bit PA-RISC (SR1 or above) ²¹

20 Only if the JDK is supplied with another IBM product.

21 FIPS compliance is only supported on IBM adapted SDKs.

SOAP support

- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V1.4.2 (32-bit only)
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 for 32-bit (SR1 or above) (32-bit only)
- HP JDK for JSE HP-UX 11i platform, adapted by IBM for IBM Software, V6 for 32-bit PA-RISC
- Apache Axis V1.4 (supplied with WebSphere MQ)

Transactions Managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- TXSeries V6.1 and V6.2 ²²
- TXSeries V7.1 ²²
- BEA Tuxedo V9.1

22 The resiliency feature of TXSeries V6.1, V6.2, and V7.1 is not supported. The XA Resiliency feature of TXSeries V6.1, V6.2, and V7.1 does not work with WebSphere MQ as a Resource Manager.

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported ²³

23 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when WebSphere MQ is the Transaction Manager)

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- DB2 V9.1 for Linux, UNIX, and Windows²⁴
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ²⁵
- Oracle 10g Release 2

- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15 ²⁵

24 Only 64-bit DB2 instances can be used with 64-bit WebSphere MQ.

25 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- HP SNAplus2 Version 7 (SNA)
- TCP/IP (provided by the operation system); IPv6 feature support is available with HP's Transport Optional Upgrade Release (TOUR)

Versions of products or components shipped with the product

JDK:

- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0
- HP SDK for J2SE HP-UX 11i platform, adapted by IBM for IBM Software, V5.0 for 64-bit PA-RISC

GSKit:

- IBM Global Security Kit V7D (32-bit)
- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Mozilla 1.7
- Firefox 1.5, Firefox 2.0
- Konqueror (UI base mode only)

Supported application servers for the WebSphere MQ Bridge for HTTP

- WebSphere Application Server V6.0.2.1 or later
- WebSphere Application Server V7 or later

Multi-instance queue managers

ONC B.11.31.08 required for multi-instance queue manager support.

For HP-UX 11.31, libc cumulative patch PHCO_36900 or superseding patch is required.

For multi-instance queue managers, you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System (GPFS) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

Linux on System x (32-bit)

Operating systems

- Red Hat Enterprise Linux (RHEL) V4.0 or later update
- Red Hat Enterprise Linux (RHEL) V5.0 to V5.3
- SUSE Linux Enterprise Server (SLES) V9 with Service Pack 1 or later
- SUSE Linux Enterprise Server (SLES) V10 with Service Pack 1 or later
- SUSE Linux Enterprise Server (SLES) V11
- NLPOS9 FP1
- IRES V2

- Red Flag Data Centre V5.0

For C/C++ applications

- GNU C Compiler (gcc) and g++ V3.3 (SLES 9)
- GNU C Compiler (gcc) and g++ V4.1 (SLES 10) ²⁶
- GNU C Compiler (gcc) and g++ V3.4 (Red Hat 4) ²⁶
- GNU C Compiler (gcc) and g++ V4.1 (Red Hat 5) ²⁶

26 On Linux platforms, if you need to use SSL in a C++ MQ application, you must link the application against the libstdc++.so.5 runtime library. This is because the version of the GSKit SSL libraries supplied with MQ depends on libstdc++.so.5 and this GSKit version is not compatible with other C++ runtime library versions. MQ C++ applications built against the GCC 3.2 or 3.3 C++ runtime libraries comply with this restriction and will be able to use SSL.

For COBOL applications

- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- Java 2 Platform, Standard Edition (J2SE) V1.4.2 from Sun Microsystems, Inc.
- Java 2 Platform, Standard Edition (J2SE) V5.0 from Sun Microsystems, Inc.
- IBM 32-bit SDK for Linux on Intel® architecture, Java 2 Technology Edition V1.4.2²⁷
- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V5.0 (SR1 or above)
- IBM 32-bit SDK for Linux on Intel architecture, Java Technology Edition V6.0²⁷

64-bit:

Not applicable

27 Only if the JDK is supplied with another IBM product.

SOAP support

- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V1.4.2
- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V5.0 (SR1 or above)
- IBM 32-bit SDK for Linux on Intel architecture, Java Technology Edition V6.0
- Apache Axis V1.4 (supplied with WebSphere MQ)

Transactions Managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- BEA Tuxedo V9.1
- BEA Tuxedo V10 ^{28, 29}

28 This only applies to Red Hat Linux: A fix with identifier CR235194 is required to ensure that WebSphere MQ can successfully access the C library function catopen() in a Tuxedo server program.

29 Use rolling patch R017 so as to obtain a fix with identifier CR382618.

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Application servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported ³⁰

30 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when WebSphere MQ is the Transaction Manager)

- DB2 V9.1 for Linux, UNIX, and Windows
- Informix Dynamic Server (IDS) V10 with Client SDK V2.90³¹
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0³¹
- Oracle 10g Release 2
- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15³¹

31 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- IBM Communications Server for Linux V6.2 (SNA)
- TCP/IP (IPv4 and IPv6 provided by the operating system)

Versions of products or components shipped with the product

JDK:

- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V5.0

GSKit:

- IBM Global Security Kit V7D (32-bit)

Supported browsers for the WebSphere MQ Information Center

- Mozilla 1.7
- Firefox 1.5, Firefox 2.0
- Konqueror (UI base mode only)

Supported application servers for the WebSphere MQ Bridge for HTTP

- WebSphere Application Server V6.0.2.1 or later
- WebSphere Application Server V7 or later
- WebSphere Application Server Community Edition V1.1 or later
- WebSphere Application Server Community Edition V2.1 or later

Multi-instance queue managers

Multi-instance queue managers are not supported on RHEL V4.

For multi-instance queue managers, you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System (GPFS) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

Linux on System x (64-bit)

Operating systems

- Red Hat Enterprise Linux (RHEL) V4.0 or later update
- Red Hat Enterprise Linux (RHEL) V5.0 to V5.3
- SUSE Linux Enterprise Server (SLES) V9 with Service Pack 1 or later
- SUSE Linux Enterprise Server (SLES) V10 with Service Pack 1 or later
- SUSE Linux Enterprise Server (SLES) V11

For C/C++ applications

- GNU C Compiler (gcc) and g++ V3.3 (SLES 9)
- GNU C Compiler (gcc) and g++ V4.1 (SLES 10)³²
- GNU C Compiler (gcc) and g++ V3.4 (Red Hat 4)³²
- GNU C Compiler (gcc) and g++ V4.1 (Red Hat 5)³²

32 On Linux platforms, if you need to use SSL in a C++ MQ application, you must link the application against the libstdc++.so.5 runtime library. This is because the version of the GSKit SSL libraries supplied with MQ depends on libstdc++.so.5 and this GSKit version is not compatible with other C++ runtime library versions. MQ C++ applications built against the GCC 3.2 or 3.3 C++ runtime libraries comply with this restriction and will be able to use SSL.

For COBOL applications

- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- Java 2 Platform, Standard Edition (J2SE) V1.4.2 from Sun Microsystems, Inc.
- Java 2 Platform, Standard Edition (J2SE) V5.0 from Sun Microsystems, Inc.
- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V1.4.2³³
- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V5.0 (SR1 or above)
- IBM 32-bit SDK for Linux on Intel architecture, Java Technology Edition V6.0³³

64-bit:

- Java 2 Platform, Standard Edition (J2SE) V1.5 from Sun Microsystems, Inc.
- IBM 64-bit SDK for Linux on AMD64/EM64T architecture, Java 2 Technology Edition, V1.4.2³³
- IBM 64-bit SDK for Linux on AMD64/EM64T architecture, Java 2 Technology Edition, V5.0 (SR1 or above)
- IBM 64-bit SDK for Linux on AMD64/EM64T architecture, Java Technology Edition, V6.0³³

33 Only if the JDK is supplied with another IBM product.

SOAP support

- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V1.4.2
- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V5.0 (SR1 or above)
- IBM 32-bit SDK for Linux on Intel architecture, Java Technology Edition V6.0
- Apache Axis V1.4 (supplied with WebSphere MQ)

Transactions Managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- BEA Tuxedo V9.1

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported ³⁴

34 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when WebSphere MQ is the Transaction Manager)

- DB2 V9.1 for Linux, UNIX, and Windows
- DB2 V9.5 for Linux, UNIX, and Windows
- Informix Dynamic Server (IDS) V10 with Client SDK V2.90 ³⁵
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ³⁵
- Oracle 10g Release 2
- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15 ³⁵

35 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- TCP/IP (IPv4 and IPv6 provided by the operating system)

Versions of products or components shipped with the product

JDK:

- IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition V5.0
- IBM 64-bit SDK for Linux on AMD64/EM64T architecture, Java 2 Technology Edition, V5.0

GSKit:

- IBM Global Security Kit V7D (32-bit)
- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Mozilla 1.7
- Firefox 1.5, Firefox 2.0
- Konqueror (UI base mode only)

Supported application servers for the WebSphere MQ Bridge for HTTP

- WebSphere Application Server V6.0.2.1 or later
- WebSphere Application Server V7 or later
- WebSphere Application Server Community Edition V1.1 or later
- WebSphere Application Server Community Edition V2.1 or later

Multi-instance queue managers

Multi-instance queue managers are not supported on RHEL V4.

For multi-instance queue managers, you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System (GPFS) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

Linux on System p

Operating systems

- Red Hat Enterprise Linux (RHEL) V4.0 or later update
- Red Hat Enterprise Linux (RHEL) V5.0 to V5.3
- SUSE Linux Enterprise Server (SLES) V9 with Service Pack 1 or later
- SUSE Linux Enterprise Server (SLES) V10 with Service Pack 1 or later
- SUSE Linux Enterprise Server (SLES) V11

For C/C++ applications

- GNU C Compiler (gcc) and g++ V3.3 (SLES 9)
- GNU C Compiler (gcc) and g++ V4.1 (SLES 10)³⁶
- GNU C Compiler (gcc) and g++ V3.4 (Red Hat 4)³⁶
- GNU C Compiler (gcc) and g++ V4.1 (Red Hat 5)³⁶

³⁶ On Linux platforms, if you need to use SSL in a C++ MQ application, you must link the application against the libstdc++.so.5 runtime library. This is because the version of the GSKit SSL libraries supplied with MQ depends on libstdc++.so.5 and this GSKit version is not compatible with other C++ runtime library versions. MQ C++ applications built against the GCC 3.2 or 3.3 C++ runtime libraries comply with this restriction and will be able to use SSL.

For COBOL applications

- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- IBM 32-bit SDK for Linux on iSeries® and pSeries, Java 2 Technology Edition, V1.4.2 (supported on System p only)³⁷
- IBM 32-bit SDK for Linux on iSeries and pSeries, Java 2 Technology Edition, V5.0 (SR1 or above)
- IBM 32-bit SDK for Linux on System i and System p

64-bit:

- IBM 64-bit SDK for Linux on iSeries and pSeries, Java 2 Technology Edition, V1.4.2 (supported on System p only)³⁷
- IBM 64-bit SDK for Linux on iSeries and pSeries, Java 2 Technology Edition, V5.0 (SR1 or above)
- IBM 64-bit SDK for Linux on System i and System p architecture, Java Technology Edition, V6.0³⁷

37 Only if the JDK is supplied with another IBM product.

SOAP support

- IBM 32-bit SDK for Linux on iSeries and pSeries, Java 2 Technology Edition, V1.4.2 (supported on System p only)
- IBM 32-bit SDK for Linux on iSeries and pSeries, Java 2 Technology Edition, V5.0 (SR1 or above)
- IBM 32-bit SDK for Linux on System i and System p architecture, Java Technology Edition, V6.0
- Apache Axis V1.4 (supplied with WebSphere MQ)

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported³⁸

38 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when WebSphere MQ is the Transaction Manager)

- DB2 V9.1 for Linux, UNIX, and Windows
- DB2 V9.5 for Linux, UNIX, and Windows

- Informix Dynamic Server (IDS) V10 with Client SDK V2.90 ³⁹
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ³⁹
- Oracle 10g Release 2
- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15 ³⁹

39 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- IBM Communications Server for Linux V6.2 (SNA)
- TCP/IP (IPv4 and IPv6 provided by the operating system)

Versions of products or components shipped with the product

JDK:

- IBM 32-bit SDK for Linux on iSeries and pSeries, Java 2 Technology Edition V5.0
- IBM 64-bit SDK for Linux on iSeries and pSeries, Java 2 Technology Edition, V5.0

GSKit:

- Global Security Kit V7D (32-bit)
- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Mozilla 1.7
- Firefox 1.5, Firefox 2.0
- Konqueror (UI base mode only)

Supported application servers for the WebSphere MQ Bridge for HTTP

- WebSphere Application Server V6.0.2.1 or later
- WebSphere Application Server Community Edition (WAS CE) V1.1 or later

Multi-instance queue managers

Multi-instance queue managers are not supported on RHEL V4.

For multi-instance queue managers, you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System (GPFS) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

Linux on System z

Operating systems

- Red Hat Enterprise Linux (RHEL) V4.0 or later update
- Red Hat Enterprise Linux (RHEL) V5.0 to V5.3
- SUSE Linux Enterprise Server (SLES) V9 with Service Pack 1 or later
- SUSE Linux Enterprise Server (SLES) V10 with Service Pack 1 or later
- SUSE Linux Enterprise Server (SLES) V11

For C/C++ applications

- GNU C Compiler (gcc) and g++ V3.3 (SLES 9)
- GNU C Compiler (gcc) and g++ V4.1 (SLES 10)⁴⁰

- GNU C Compiler (gcc) and g++ V3.4 (Red Hat 4) ⁴⁰
- GNU C Compiler (gcc) and g++ V4.1 (Red Hat 5) ⁴⁰

40 On Linux platforms, if you need to use SSL in a C++ MQ application, you must link the application against the libstdc++.so.5 runtime library. This is because the version of the GSKit SSL libraries supplied with MQ depends on libstdc++.so.5 and this GSKit version is not compatible with other C++ runtime library versions. MQ C++ applications built against the GCC 3.2 or 3.3 C++ runtime libraries comply with this restriction and will be able to use SSL.

For COBOL applications

- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- IBM 31-bit SDK for Linux on zSeries®, Java 2 Technology Edition, V1.4.2 ^{4q}
- IBM 31-bit SDK for Linux on zSeries, Java 2 Technology Edition, V5.0 (SR1 or above)
- IBM 31-bit SDK for Linux on System z architecture, Java Technology Edition, V6.0 ⁴¹

64-bit:

- IBM 64-bit SDK for Linux on zSeries, Java 2 Technology Edition, V1.4.2 ⁴¹
- IBM 64-bit SDK for Linux on zSeries, Java 2 Technology Edition, V5.0 (SR1 or above)
- IBM 64-bit SDK for Linux on System z architecture, Java Technology Edition, V6.0 ⁴¹

41 Only if the JDK is supplied with another IBM product.

SOAP support

- IBM 31-bit SDK for Linux on zSeries, Java 2 Technology Edition V1.4.2
- IBM 31-bit SDK for Linux on zSeries architecture, Java 2 Technology Edition V5.0 (SR1 or above)
- IBM 31-bit SDK for Linux on zSeries, Java Technology Edition V6.0
- Apache Axis V1.4 (supplied with WebSphere MQ)

Transactions Managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2

- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported ⁴²

42 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when WebSphere MQ is the Transaction Manager)

- DB2 V9.1 for Linux, UNIX, and Windows
- DB2 V9.5 for Linux, UNIX, and Windows
- Informix Dynamic Server (IDS) V10 with Client SDK V2.90 ⁴³
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ⁴³
- Oracle 10g Release 2

43 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- TCP/IP (IPv4 and IPv6 provided by the operating system)

Versions of products or components shipped with the product

JDK:

- IBM 31-bit SDK for Linux on zSeries, Java 2 Technology Edition V5.0
- IBM 64-bit SDK for Linux on zSeries, Java 2 Technology Edition, V5.0

GSKit:

- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Mozilla 1.7
- Firefox 1.5, Firefox 2.0
- Konqueror (UI base mode only)

Multi-instance queue managers

Multi-instance queue managers are not supported on RHEL V4.

For multi-instance queue managers, you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System (GPFS) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

Solaris on x86-64

Operating systems

- Sun Solaris V10 (with SunSolve-recommended Patch Cluster level)

For C/C++ applications

- Sun ONE Studio 10 Enterprise Edition for Solaris (C and C++)
- Sun ONE Studio 11 Enterprise Edition for Solaris (C and C++)

For COBOL applications

- Micro Focus Server Express V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- Sun Java 2 Platform Standard Edition, Version 1.4.2
- Sun Java 2 Platform Standard Edition, Version 5.0
- Sun Java 2 Platform Standard Edition, Version 6.0
- IBM 32-bit SDK for Solaris, Java 2 Technology Edition, V1.4.2 ^{44,45}
- IBM 32-bit SDK for Solaris, Java 2 Technology Edition V5.0 (SR1 or above) ⁴⁵
- IBM 32-bit SDK for Solaris on Intel architecture, Java Technology Edition V6.0 ^{44,45}

64-bit:

- Sun Java 2 Platform Standard Edition, Version 5.0
- Sun Java 2 Platform Standard Edition, Version 6.0
- IBM 64-bit SDK for Solaris, Java 2 Technology Edition V5.0 (SR1 or above) ⁴⁵
- IBM 64-bit SDK for Solaris on AMD64/EM64T architecture, Java Technology Edition V6.0 ^{44,45}

44 Only if the JDK is supplied with another IBM product.

45 FIPS compliance is only supported on IBM SDKs.

SOAP Support

- IBM 32-bit SDK for Solaris, Java 2 Technology Edition, V1.4.2
- IBM 32-bit SDK for Solaris, Java 2 Technology Edition V5.0 (SR1 or above)
- IBM 32-bit SDK for Solaris on Intel architecture, Java Technology Edition V6.0
- Apache Axis V1.4 (supplied with WebSphere MQ)

Transactions Managers: Not applicable

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported ⁴⁶

46 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when MQ is the Transaction Manager)

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- DB2 V9.1 for Linux, UNIX, and Windows
- DB2 V9.5 for Linux, UNIX, and Windows
- Informix Dynamic Server (IDS) V10 with Client SDK V2.90 ⁴⁷
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ⁴⁷
- Oracle 10g Release 2
- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15 ⁴⁷

⁴⁷ Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- TCP/IP (IPv4 and IPv6 provided by the operating system)

Versions of products or components shipped with the product

JDK:

- IBM 32-bit SDK for Solaris, Java 2 Technology Edition V5.0
- IBM 64-bit SDK for Solaris, Java 2 Technology Edition V5.0

GSKit:

- Global Security Kit V7D (32-bit)
- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Firefox 2.0
- Konqueror (UI base mode only)

Multi-instance queue managers

For multi-instance queue managers, you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System (GPFS) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

Solaris SPARC

Operating systems

- Sun Solaris V9
- Sun Solaris V10

For C/C++ applications

- Sun ONE Studio 9 Compiler Collection (C and C++)
- Sun Studio 10 Software for Solaris Platforms
- Sun ONE Studio 11 Enterprise Edition for Solaris (C and C++)

For COBOL applications

- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- Sun Solaris Java SDK V1.4 with JDK V1.4.2
- Sun Solaris Java SDK V5 with JDK V5
- Sun Solaris Java SDK V6 with JDK V6
- IBM 32-bit SDK for Solaris, Java 2 Technology Edition, V1.4.2 ^{48,49}
- IBM 32-bit SDK for Solaris, Java 2 Technology Edition, V5.0 (SR1 or above) ⁴⁹
- IBM 32-bit SDK for Solaris, Java Technology Edition, V6.0 ^{48,49}

64-bit:

- Sun Java 2 SDK, Standard Edition V1.4.2
- Sun Java 2 SDK, Standard Edition V5
- Sun Java 2 SDK, Standard Edition V6
- IBM 64-bit SDK for Solaris, Java 2 Technology Edition, V1.4.2 ^{48,49}
- IBM 64-bit SDK for Solaris, Java 2 Technology Edition V5.0 (SR1 or above) ⁴⁹
- IBM 64-bit SDK for Solaris, Java Technology Edition V6.0 ^{48,49}

48 Only if the JDK is supplied with another IBM product

49 FIPS compliance is only supported on IBM SDK

SOAP support

- IBM 32-bit SDK for Solaris, Java 2 Technology Edition, V1.4.2
- IBM 32-bit SDK for Solaris, Java 2 Technology Edition V5.0 (SR1 or above)
- IBM 32-bit SDK for Solaris, Java Technology Edition V6.0
- Apache Axis V1.4 (supplied with WebSphere MQ)

Transactions Managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- TXSeries V6.1 and V6.2 ⁵⁰
- TXSeries V7.1 ⁵⁰
- BEA Tuxedo V9.1

50 The resiliency feature of TXSeries V6.1, V6.2, and V7.1 is not supported. The XA Resiliency feature of TXSeries V6.1, V6.2, and V7.1 does not work with WebSphere MQ as a Resource Manager.

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2
- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- BEA WebLogic Server 10.3 (JMS only) ⁵²
- Other application server environments may be supported ⁵¹

51 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

52 BEA WebLogic Server 10.3 must be run with Sun Java 6.0.

Resource Managers (when WebSphere MQ is the Transaction Manager)

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- DB2 V9.1 for Linux, UNIX, and Windows
- DB2 V9.5 for Linux, UNIX, and Windows
- Informix Dynamic Server (IDS) V10 with Client SDK V2.90 ⁵³
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ⁵³
- Oracle 10g Release 2
- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15 ⁵³

53 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- SNAP-IX V7.0 (SNA)
- TCP/IP (IPv4 and IPv6 provided by the operating system)

Versions of products or components shipped with the product

JDK:

- IBM 32-bit SDK for Solaris, Java 2 Technology Edition V5.0
- IBM 64-bit SDK for Solaris, Java 2 Technology Edition V5.0

GSKit:

- Global Security Kit V7D (32-bit)
- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Firefox 2.0
- Konqueror (UI base mode only)

Supported application servers for the WebSphere MQ Bridge for HTTP

- WebSphere Application Server V6.0.2.1 or later
- WebSphere Application Server V7 or later
- WebSphere Application Server Community Edition V1.1 or later

- WebSphere Application Server Community Edition V2.1 or later

Multi-instance queue managers

For multi-instance queue managers, you will need a networked storage device (such as a NAS). The storage must be accessed by a network file system protocol which is Posix-compliant and supports lease-based locking. Network File System version 4 (NFS v4) and IBM General Parallel File System (GPFS) both satisfy this requirement. Earlier versions of NFS do not satisfy this requirement and must not be used with multi-instance queue managers.

Microsoft Windows

Operating systems

- Microsoft Windows XP Professional (SP2 or later)
- Microsoft Windows XP Professional x64 Edition
- Microsoft Windows Server 2003 (SP1 or later) (Standard Edition or Enterprise Edition)
- Microsoft Windows Server 2003 (SP1 or later) (Standard x64 Edition or Enterprise x64 Edition)
- Microsoft Windows Server 2003 R2 (SP1 or later) (Standard Edition or Enterprise Edition)
- Microsoft Windows Server 2003 R2 (SP1 or later) (Standard x64 Edition or Enterprise x64 Edition)
- Microsoft Windows Server 2008 (Standard or Enterprise 32-bit and 64-bit Edition)⁵⁴
- Microsoft Windows Vista (Business, Enterprise or Ultimate Edition)
- Microsoft Windows Vista (64-bit versions of Business, Enterprise or Ultimate Edition)
- Microsoft Windows Embedded Point of Service 1.0

⁵⁴ There is an open issue with the use of WebSphere MQ and MSCS in a Microsoft Windows 2008 environment. Reference: APAR IC59261.

For C/C++ applications

- Microsoft Visual Studio C++ 2005

For COBOL applications

- IBM COBOL supplied with Rational® Developer for System z
- Micro Focus Server Express V4.0 and V5.0

For Java applications using the WebSphere MQ classes for Java or JMS

32-bit:

- Java 2 Platform, Standard Edition (J2SE) V1.4.2 from Sun Microsystems, Inc.
- Java 2 Platform, Standard Edition V5.0 (SR1 or above) from Sun Microsystems, Inc.
- Java 2 Platform, Standard Edition V6.0 from Sun Microsystems, Inc.
- IBM 32-bit SDK for Windows, Java 2 Technology Edition, V1.4.2^{55, 56}
- IBM 32-bit SDK for Windows, Java 2 Technology Edition, V5.0 (SR1 or above)⁵⁶
- IBM 32-bit SDK for Windows, Java Technology Edition, V6.0^{55, 56}

64-bit:

- Sun Java 2 Platform Standard Edition, Version 5.0
- Sun Java 2 Platform Standard Edition, Version 6.0

- IBM 64-bit SDK for WindowsAMD64/EM64T architecture, Java 2 Technology Edition, V1.4.2 ⁵⁵
- IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java 2 Technology Edition, V5.0
- IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java Technology Edition, V6.0 ⁵⁶

55 Only if the JDK is supplied with another IBM product.

56 FIPS compliance is only supported on IBM SDKs.

For .NET applications

- Microsoft .NET Framework V2.0
- Microsoft .NET Framework V3.0
- Microsoft .NET Framework V3.5
- Microsoft .NET Framework SDK V3.5 or Microsoft Visual Studio 2008 for Windows Communications Foundation (WCF) support

SOAP support

- Microsoft Internet Information Services (for running .NET services) on Windows XP and 2003
- Microsoft .NET Framework V2.0
- Microsoft .NET Framework SDK V2.0 or Microsoft Visual Studio 2005 (for deploying Microsoft .NET services)
- IBM 32-bit SDK for Windows, Java 2 Technology Edition, V1.4.2
- IBM 32-bit SDK for Windows, Java 2 Technology Edition, V5.0 (SR1 or above)
- IBM 32-bit SDK for Windows, Java Technology Edition, V6.0
- Apache Axis V1.4 (supplied with WebSphere MQ)

Transactions Managers

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- TXSeries V6.1 and V6.2 ⁵⁷
- TXSeries V7.1 ⁵⁷
- BEA Tuxedo V9.1
- MTS/COM (at the same level as the operating system)

57 The resiliency feature of TXSeries V6.1, V6.2, and V7.1 is not supported. The XA Resiliency feature of TXSeries V6.1, V6.2, and V7.1 does not work with WebSphere MQ as a Resource Manager.

WebSphere Message Broker

- WebSphere Message Broker V6.1 with Fix Pack 4 (6.1.0.4) or later
- WebSphere Message Broker V6.0 with Fix Pack 9 (6.0.0.9) or later

Application Servers

Where a WebSphere MQ client application is running in one of the listed transaction manager environments, it is recommended that you contact the transaction manager vendor in the first instance for support:

- WebSphere Application Server, including the WebSphere Application Server client container, V6.0.2

- WebSphere Application Server, including the WebSphere Application Server client container, V6.1
- WebSphere Application Server, including the WebSphere Application Server client container, V7.0
- BEA WebLogic Server 9.2 (JMS only)
- Other application server environments may be supported ⁵⁸

58 For more detailed information about using WebSphere MQ with application servers, see the WebSphere MQ resource adapter statement of support document.

Resource Managers (when WebSphere MQ is the Transaction Manager)

Using the WebSphere MQ classes for JMS, WebSphere MQ can only act in the role of a Resource Manager. A third-party Transaction Coordinator must be used (for example, WebSphere Application Server).

Using the WebSphere MQ classes for Java, WebSphere MQ can act as a Transaction Coordinator. However, it is not possible to participate in a JTA-style transaction.

- DB2 V9.1 for Linux, UNIX, and Windows⁵⁹
- DB2 V9.5 for Linux, UNIX, and Windows⁵⁹
- Informix Dynamic Server (IDS) V10 with Client SDK V2.90⁶⁰
- Informix Dynamic Server (IDS) V11.10 with Client SDK V3.0 ⁶⁰
- Oracle 10g Release 2
- Sybase Adaptive Server Enterprise (ASE) V15 Sybase SDK V15 ⁶⁰

59 Only 64-bit DB2 instances can be used with 64-bit WebSphere MQ.

60 Informix Dynamic Server (IDS) and Sybase Adaptive Server Enterprise (ASE) are not supported by the WebSphere MQ Java Classes.

Connectivity

- IBM Communications Server for Windows V6.1.2
- IBM Personal Communications for Windows V5.9 (part of IBM Host Access Client Package for Multi-platforms (HACP), V6)
- Microsoft Host Integration Server 2006 (provides 64-bit support)
- Attachmate myEXTRA| Presentation Services, V7.11
- Attachmate EXTRA| X-treme V9
- TCP/IP (provided by the operating system; IP V6 feature provided on Windows XP with Service Pack 1 or later, Windows Server 2003 and Windows Vista)
- NetBIOS (provided by the operating system)
- Sequenced Package Exchange (SPX) (provided on Windows XP and 2003 only)
- WebSphere MQ client applications are supported on the Citrix Presentation Server V4.5

Versions of products or components shipped with the product

JDK

- IBM 32-bit SDK for Windows, Java 2 Technology Edition, V5.0
- IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java 2 Technology Edition, V5.0

GSKit

- Global Security Kit V7D (32-bit)
- Global Security Kit V7D (64-bit)

Supported browsers for the WebSphere MQ Information Center

- Internet Explorer (IE) 6.0, Internet Explorer 7.0
- Mozilla 1.7
- Firefox 1.5, Firefox 2.0
- Konqueror (UI base mode only)

Supported application servers for the WebSphere MQ Bridge for HTTP

- WebSphere Application Server V6.0.2.1, or later ⁶¹
- WebSphere Application Server V7, or later
- WebSphere Application Server Community Edition V1.1, or later ⁶¹
- WebSphere Application Server Community Edition V2.1, or later

⁶¹ Only the following versions of Microsoft Windows are supported: XP Professional SP2, 2003 Server SP1, and 2003 Server x64 SP1 or SP2

Multi-instance queue managers

A networked storage device accessed by the Common Internet File System (CIFS) protocol used by Microsoft Windows networks is required.

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a README file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

Compatibility

WebSphere MQ V7.0 queue managers and clients interoperate with queue managers and clients from any previous level of WebSphere MQ or MQSeries products.

The WebSphere MQ Explorer runs on the Linux on x86 and Windows platforms. The MQ Explorer can be used on a client connection from an earlier supported level of WebSphere MQ or MQSeries on a different platform (for example, WebSphere MQ V5.3 on AIX or MQSeries V5.1 on Solaris, Intel Platform Edition).

Planning information

In future releases of WebSphere MQ, it is not expected that further enhancements to the programming interfaces to WebSphere MQ will be applied to the C++ API.

In a future release of WebSphere MQ, it is expected that the following features of the product will be removed:

- Client and Server File Transfer utility applications
- API Exerciser
- Windows Performance Monitor
- Support for HP-UX on PA-RISC architecture

The following SupportPacs are planned for withdrawal:

- MA0F - WebSphere MQ Application Messaging Interface (AMI)
- MS0E - The MQSeries Administration Wrapper (runmqadm)

Customer responsibilities

Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and technical support are provided by the Software Subscription and Support (also referred to as Software Maintenance) offering as described in the Agreements. Product upgrades provide the latest

versions and releases to entitled software, and technical support provides voice and electronic access to IBM support organizations, worldwide.

IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with each program license acquired. The initial period of Software Subscription and Support (also referred to as Software Maintenance) can be extended by the purchase of a renewal option, if available.

Packaging

The WebSphere MQ V7.0.1 Media Pack comprises the following CD-ROMs:

- WebSphere MQ for AIX
- WebSphere MQ for HP-UX on Itanium platform
- WebSphere MQ for HP-UX PA-RISC platform
- WebSphere MQ for i5/OS
- WebSphere MQ for Linux on x86-64 platform
- WebSphere MQ for Linux on x86 platform
- WebSphere MQ for Linux on System z platform
- WebSphere MQ for Linux on POWER platform
- WebSphere MQ for Solaris on x86-64 platform
- WebSphere MQ for Solaris SPARC platform
- WebSphere MQ for Windows
- WebSphere MQ Clients
- WebSphere MQ Quick Start

The Media Pack also contains an International Program License Agreement booklet and a PPA Media Pack Pointer Sheet.

Security, auditability, and control

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

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

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 or to contact a Software Services sales specialist, visit

<http://www.ibm.com/software/sw-services/>

Ordering information

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Product information

Licensed function title	Product group	Product category
WebSphere MQ	IBM MQSeries	MQSeries
Program name	PID number	Charge unit description
IBM WebSphere MQ	5724-H72	Per Processor Value Unit (PVU) for Linux on System z
IBM WebSphere MQ	5724-H72	Per PVU
IBM WebSphere MQ	5724-H72	PROCESSOR-Day

Charge metrics definitions

Processor Value Unit

A processor core 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. With multicore technology, each core is considered a processor. Not all processor cores require the same number of Processor Value Unit (PVU) entitlements. To calculate the number of PVU entitlements required, refer to the PVU table on the following Web site

http://www-142.ibm.com/software/sw-lotus/services/cwepassport.nsf/wdocs/pvu_table_for_customers

With full capacity licensing, a PoE must be acquired for the appropriate number of PVUs based on all activated processor cores available for use on the server.

Passport Advantage program licenses

WebSphere MQ

Part description	Part number
IBM WebSphere MQ	
WebSphere MQ Per Processor Value Unit (PVU) Annual SW S&S Rnw1	E0256LL
WebSphere MQ Per Processor Value Unit (PVU) Lic + SW S&S 12 Mo	D55V1LL
WebSphere MQ Per Processor Value Unit (PVU) SW S&S Reinststate 12 Mo	D55V2LL

Passport Advantage supply

WebSphere MQ v7.0.0
WebSphere MQ for Multipatforms v7.0 Multilingual Media Pack BA0NWML

Passport Advantage customer: Media pack entitlement details

Customers with active maintenance or subscription for the products listed are entitled to receive the corresponding media pack.

WebSphere MQ V7.0.0

Entitled maintenance offerings description	Media packs description	Part number
webSphere MQ Linux zSeries Value Unit	webSphere MQ for Multiplatforms V7.0 Multilingual Media Pack	BA0NWML
webSphere MQ Value Unit	webSphere MQ for Multiplatforms V7.0 Multilingual Media Pack	BA0NWML

Cross-platform products

Cross-platform product for use on System 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 System z Integrated Facility for Linux (IFL) engines. If the product is not intended to run on the Linux operating system on System z IFL engines, 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.

WebSphere MQ

Part description	Part number
IBM WebSphere MQ	
WebSphere MQ Per Proc VU for Lin Sys z Annual SW S&S Rnw1	E0257LL
WebSphere MQ Per Proc VU for Lin Sys z Lic + SW S&S 12 Mo	D55V4LL
WebSphere MQ Per Proc VU for Lin Sys z SW S&S Reinstate 12 Mo	D55V5LL

On/Off CoD

IBM WebSphere MQ

webSphere MQ PROCESSOR-Day(s) Per Use-Day OOCOD	ASQ24LL
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This software license includes Software Subscription and Support (also referred to as Software Maintenance).

License Information form number

Program name	Program number	Form number
WebSphere MQ	5724-H72	L-APIG-7T5JD2

The program's License Information will be available for review on the IBM Software License Agreement Web site

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

Limited warranty applies

Yes

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The program may be stored on the primary machine and another machine, provided that the program is not in active use on both machines at the same time. You may not copy and use this program on another computer without paying additional license fees.

Product name

WebSphere MQ No

Volume orders (IVO)

No

Passport Advantage applies

Yes, and through the Passport Advantage Web site at

<http://www.ibm.com/software/passportadvantage>

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

Usage restriction

Yes

The various Program Unique Terms set forth or referred to below apply to the Program and to its components as identified below, and are in addition to, and may modify, those of the IBM International Program License Agreement.

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No separate server or client authorizations are required to license any other component part of the Program, including the Information Center, the MQ Resource Adapter, and the MQ Explorer.

2. Extended Transactional Client

In addition to the MQ clients, WebSphere MQ delivers an extended transactional client for each client platform.

If the Licensee chooses to use an extended transactional client, the Licensee must purchase a license for the machine on which they are running the client. The only exception to this requirement is if the transaction manager that they are using is provided by (i) WebSphere Application Server, (ii) WebSphere Enterprise Service Bus, or (iii) WebSphere Process Server, each of which includes extended transactional client capability.

For additional information, refer to the License Information document that is available on the IBM Software License Agreement Web site

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

Software Subscription and Support (Software Maintenance)

Yes. Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and technical support are provided by the Software Subscription and Support (also referred to as Software Maintenance)

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<http://www.ibm.com/software/passportadvantage>

System i Software Maintenance applies

No

Educational allowance available

Not applicable.

On/Off CoD

To be eligible for On/Off CoD pricing, customers must be enabled for temporary capacity on the corresponding hardware, and the required contract - Z125-6907, Amendment for iSeries and pSeries Temporary Capacity On Demand - Software - must be signed prior to use.

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Prices

Passport Advantage

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