IBM WebSphere MQ Enhancements Bring More Flexibility and Security

Overview

The WebSphere® MQ messaging family continues to evolve.

A major new release brings:

- Added security using Secure Sockets Layer (SSL), the Internet standard for secure communication
- Enhanced performance, especially for Java™ Message Service (JMS) applications, making WebSphere MQ the JMS provider of choice
- Support for key platforms such as Microsoft® Windows® XP and Linux on IBM @server zSeries
- Features that harmonize the z/OS™ and distributed platform products
- New features that enhance system scalability and reliability, particularly for clustering
- Simplified development of API exits to allow monitoring or local standards to be implemented

Business integration across many applications is a common element of successful e-business implementation. Other WebSphere MQ family members, such as WebSphere MQ Integrator and MQSeries® Workflow, give you the tools to add value outside the basic message queuing paradigm.

The WebSphere MQ family includes assured message delivery on multiple platforms — a variety of ways to solve your e-business needs.

Together with WebSphere MQ for z/OS and WebSphere MQ Everyplace™, the WebSphere MQ family covers all requirements for messaging, including JMS.

Key Prerequisites

Hardware capable of running the appropriate operating system as specified in the Hardware Requirements and Software Requirements sections.

Planned Availability Dates

WebSphere MQ Version 5.3

- June 28, 2002, for AIX®, HP-UX, Sun Solaris, and Windows (Electronic delivery)
- July 26, 2002, for AIX, HP-UX, Sun Solaris and Windows (Media)
- October 25, 2002, for Linux for Intel®, Linux for zSeries, and IBM @server iSeries (Electronic delivery)
- November 29, 2002, for Linux for Intel, Linux for zSeries, and iSeries (Media)

Refer to the Statement of Direction for availability on Windows XP.

At a Glance

Simplify programming, harmonize features across platforms, and improve security and performance

- Comprehensive security options with SSL support
- JMS support integrated into the product
- Product flexibility increased by the API crossing exit
- Performance and scalability are enhanced for:
  - Message Queuing Interface (MQI)
  - JMS with publish/subscribe users
- Support for Windows XP and Linux on zSeries added
- Enhanced functions allow easier system management of MQ clusters
- Other added features harmonize the zSeries and distributed platform products

For ordering, contact:
Your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL

Reference: YE001

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WebSphere MQ Family

Speed to market and quality of service are critical for success so companies need to be agile to survive. The WebSphere MQ family provides a versatile platform for e-business.

Business Integration: The WebSphere platform for e-business includes business integration products and solutions that can help integrate just two applications, a single department, or the entire enterprise; reaching across business channels, trading partners, and Web customers. The WebSphere platform for e-business includes information connectivity and integration products, which can be combined selectively or built up, one upon the other, to provide more powerful and efficient integration:

- **WebSphere MQ**, the core of the MQ family, integrates over 35 platforms. Providing the base messaging functions for servers and clients, and assuring once-only message delivery, it can be used alone or with other members of the family.
- **WebSphere MQ Everywhere** brings the benefits of assured message delivery and rock-solid security to the failure-prone environment of mobile working.
- **WebSphere MQ Integrator** (formerly MQSeries Integrator) a powerful information broker, includes a one-to-many connectivity model plus transformation, intelligent routing, and information flow modelling across multiple, disparate business systems. Also supports publications and subscriptions including mobile clients, and remote telemetry devices.
- **MQSeries Workflow** a business process management system, enables the definition, execution, and swift change of complete business processes that span systems, applications, and people.
- **WebSphere MQ Adapter Offering** provides the framework and tools to build and customize WebSphere MQ adapters for existing and new, prepackaged, or custom-developed applications.

In addition, IBM has more products to support business integration, such as WebSphere Adapters (including many additional CrossWorlds Adapters) and WebSphere Business Integrator.

**WebSphere MQ, V5.3**

WebSphere MQ, V5.3 brings new performance levels, enhanced security, and added features to enhance cross-platform consistency (harmonization).

Security Enhancements: SSL provides a comprehensive solution for security problems with:

- 128-bit encryption to prevent eavesdropping
- Message Integrity Checking to prevent tampering
- Authentication to prevent impersonation
- A range of cryptographic algorithms
- Support for public/private keys
- No key distribution problems

SSL, widely accepted in the Internet community, has been subjected to significant testing by the “hacker” community.

To prevent eavesdropping, use symmetric key cryptography; to prevent tampering use the hash function; and to prevent impersonation use digital certificates, asymmetric keys, and certificate revocation lists.

WebSphere MQ now provides built-in functions to solve common security problems. Users can specify which symmetric key cryptography algorithm and which hash function to use by providing WebSphere MQ with a CipherSpec. Digital Certificates and public keys are found in a key ring, which can be specified to WebSphere MQ. Users also can check that they are talking to the partner they expect to be talking to and can choose to authenticate both ends of the connection or only the SSL Server end of the connection. Certificate revocation lists are also available to cancel security certificates.

Refer to the Specified Operating Environment section for prerequisites for SSL with Java.

API Crossing Exit: The API crossing exit is a general-purpose framework to allow applications to add their own exits independently from others. An exit point is available in the MQI libraries that can call a chain of functions that operate on the MQI parameters.

This does not stop existing “wrapper” products or components from working, but new releases of these products or components could be improved by reformatting them into this framework.

Exit code can monitor and potentially change almost all MQI parameters; the exit can be invoked both before and after MQI calls (so it can check return codes). It can also issue its own MQI calls, and multiple independent exits can be configured.

Performance Improvements: Performance is optimized for general MQ operation and for JMS. Scalability and performance improvements offer more design choices for system designers.

The number of channels that can be used on a system is increased by Channel Process Pooling, where a small number of processes with a reasonable number of threads can now handle all channel operations, inbound and outbound.

Queues greater than 2 Gb are now supported, and at the same time the minimum queue footprint in memory is reduced from approximately 250 KB to 64 KB, to allow more queues to be opened at a time.

Performance for the WebSphere MQ SupportPac™ MA0C (publish and subscribe) is also enhanced.

Further New Features:

- Wildcards can now be used with security settings. With WebSphere MQ, V5.3, you can define groups of objects to which users have access. New objects will inherit these definitions automatically. The wildcard matching, based on qualifiers with “*” separators is based on RACF®, and migration from the old Object Access Manager is transparent.

- Extensions to the security management commands and to the interface to the installable service that implements authorization checks, to display all of the users or groups who have access to particular objects, or to allow easy cloning of settings to new queue managers.
• The DISPLAY QSTATUS command, introduced with V5.2 on OS/390®, is now available on distributed platforms; the only difference is the precise information identifies the task. On the distributed platforms you can get process id, thread id, and program name.

• If you have a receiver or SVRCONN channel definition, there might be many channel instances using that single definition. A new STOP CHANNEL option allows you to target independent instances and not stop all of the identically-named channels. The STOP can be targeted at either the partner machine (CONNAME) or the partner queue manager (QMNAME).

• There are also new options for the cluster commands, to help manage situations where, for example, identically named queue managers have been placed in a cluster.

• Serviceability is improved by means of a standard trace header and other trace changes.

• The code from the Microsoft Cluster Services (MSCS) SupportPac (MC74) is included. The code will be installed on any Windows server, not just those with MSCS, but cannot be configured unless MSCS is also there.

• A new MQI option to allow hConns to be shared across threads of a process is introduced. This must be explicitly requested during MQCONNX by an application. There will still only be one operation allowed on the hConn at any one time, including MQGET(WAIT).

• The Java and JMS SupportPac (MA88) are not needed separately.

• Codepage GB18030 for use in the Republic of China is supported.

**Platform Support:**

• Microsoft Windows NT® is fully supported as well as Windows 2000. Windows XP support will be added by a service update.

• New support for Linux on zSeries is announced.

**OEM (Original Equipment Manufacturer):** WebSphere MQ technology is available to qualified OEM for product integration via the IBM OEM organization. Prospective OEMs can discuss details of the arrangement by contacting the IBM OEM Worldwide Software Sales team at: ibmoemsw@austin.ibm.com

**Accessibility by People with Disabilities**

The following features support use by people with disabilities:

• Operation by keyboard alone

• Optional font enlargement and high-contrast display settings (not available initially on non-Windows platforms)

• Screen readers and screen magnifiers tested for use by people with visual impairment

• Speech recognition products tested for use by people with mobility impairment

• Optional display of audio alerts for people with hearing impairment

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**Product Positioning**

The WebSphere MQ family provides a versatile platform for e-business.

In addition, **Product Extensions** provide additional supported function available as a download from the Internet.

**WebSphere MQ family:** The IBM industry-leading WebSphere MQ software helps companies:

• Quickly and economically address business integration issues

• Become more agile

• Stay flexible

• Maintain customer orientation

• Gain competitive position and stay there

The WebSphere MQ family allows companies to maximize e-business opportunities by:

• Leveraging existing resources

• Improving speed-to-market

• Anticipating IT changes as their business changes

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**Statement of Direction**

IBM plans to enhance WebSphere MQ base products to include the following platform support during fourth quarter 2002, via a service upgrade: **Microsoft Windows XP**.

IBM intends that this product will meet all accessibility requirements during fourth quarter 2002, when a service fix will be available for a minor accessibility problem on some platforms.

All information being released represents IBM’s current intention, is subject to change or withdrawal, and represents goals and objectives.

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Planning Information

WebSphere® MQ, V5.3 will not be available on the AIX® SPO initially. MQSeries® V5.2 will continue to be available on the SPO.

Support for Previous Release: The previous release (V5.2) will be serviced for at least one year following the availability of this release in line with WebSphere MQ policy.

Java™ SupportPac™ (MA88): This SupportPac, no longer needed, will not be updated after WebSphere MQ, V5.3 is shipped.

Deprecated function: The Web Administration and Internet Gateway in the previous release are removed from this release. Also available are C++ libraries for earlier Linux compilers.

DLLs for VisualAge® C++ for Windows® are included in this release, but will be removed in the next release of MQ. The library interface definition files have been removed in this release, so no new applications can be compiled using the no-longer-supported VisualAge C++.

Education Support

The appropriate curriculum will be updated, as necessary, to include the enhancements described in this announcement.

Details of the education support will be provided by April 9, 2002, through a separate education announcement.

Descriptions of all classroom and self-study courses are available.

For WebSphere MQ courses, access:

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

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

Offering Information

Product information is available through Offering Information (OITOOL) at:

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

Publications

PDF files can be downloaded from the Web after availability. Printed installation instructions are provided in multiple languages in the product box. Books are only available from the product CD-ROM or the Internet, no hardcopy books are supplied with the product.

The following books are shipped on the product CD in PDF format only:

<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSphere MQ Script (MQSC) Command Reference</td>
<td>SC34-6055</td>
</tr>
<tr>
<td>WebSphere MQ Messages</td>
<td>GC34-6057</td>
</tr>
<tr>
<td>WebSphere MQ Clients</td>
<td>GC34-6058</td>
</tr>
<tr>
<td>WebSphere MQ Programmable Command Formats and Administration Interface</td>
<td>SC34-6060</td>
</tr>
<tr>
<td>WebSphere MQ Application Messaging Interface</td>
<td>SC34-6065</td>
</tr>
<tr>
<td>WebSphere MQ Using C++</td>
<td>SC34-6067</td>
</tr>
<tr>
<td>WebSphere MQ System Administration Guide</td>
<td>SC34-6068</td>
</tr>
<tr>
<td>WebSphere MQ for Windows, Using the Component Object Model Interface</td>
<td>SC34-6059</td>
</tr>
<tr>
<td>WebSphere MQ Intercommunication</td>
<td>SC34-6061</td>
</tr>
<tr>
<td>WebSphere MQ Queue Manager Clusters</td>
<td>SC34-6062</td>
</tr>
<tr>
<td>WebSphere MQ Application Programming Reference</td>
<td>SC34-6064</td>
</tr>
<tr>
<td>WebSphere MQ Application Programming Guide</td>
<td>SC34-6064</td>
</tr>
<tr>
<td>WebSphere MQ Using Java</td>
<td>SC34-6066</td>
</tr>
<tr>
<td>WebSphere MQ Event Monitoring</td>
<td>SC34-6069</td>
</tr>
<tr>
<td>WebSphere MQ Security</td>
<td>SC34-6079</td>
</tr>
<tr>
<td>WebSphere MQ Glossary and Bibliography</td>
<td>SC34-6113</td>
</tr>
<tr>
<td>WebSphere MQ for Windows, V5R3 Quick Beginnings</td>
<td>GC34-6073</td>
</tr>
<tr>
<td>WebSphere MQ for Solaris V5R3 Quick Beginnings</td>
<td>GC34-6075</td>
</tr>
<tr>
<td>WebSphere MQ for AIX V5R3 Quick Beginnings</td>
<td>GC34-6076</td>
</tr>
<tr>
<td>WebSphere MQ for HP-UX V5R3 Quick Beginnings</td>
<td>GC34-6077</td>
</tr>
<tr>
<td>WebSphere MQ for Linux V5R3 Quick Beginnings</td>
<td>GC34-6078</td>
</tr>
<tr>
<td>WebSphere MQ for iSeries V5R3 Quick Beginnings</td>
<td>GC34-6072</td>
</tr>
<tr>
<td>WebSphere MQ for iSeries System Administration Guide</td>
<td>SC34-6070</td>
</tr>
<tr>
<td>WebSphere MQ for iSeries Application Programming Reference (ILE RPG)</td>
<td>SC34-6071</td>
</tr>
</tbody>
</table>

Displayable Softcopy Publications: WebSphere MQ manuals are offered in displayable softcopy form.

The displayable manuals are part of the basic machine-readable material. The files are shipped on the same media type as the basic machine-readable.

These displayable manuals are available in PDF format, and some are also available in HTML format.

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Technical Information

Hardware Requirements: Some of these operating environments are superseded if you use the Java-based components, refer to the WebSphere MQ Java Requirements section.

WebSphere MQ for AIX, V5.3

Hardware Requirements: Any Year-2000-compliant RS/6000® or IBM @server pSeries hardware explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software shown below, and any associated applications unmodified. Responsibility to provide statement of full compatibility between machines lies with the original equipment provider (if not IBM).

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 program interfaces. For further details on the AIX Multiple Vendor Program (MVP), visit: http://www.developer.ibm.com/mvp/

Protocols: Network protocols supported are SNA LU6.2 and TCP/IP.

Software Requirements
• AIX V4.3.3, with relevant Year 2000 fixes
• AIX V5.1

Software requirements are identical for server and client AIX environments unless otherwise stated.

WebSphere MQ for AIX, V5.3 supports POSIX draft 4 and draft 10 thread applications, but not draft 7.

Connectivity
• IBM eNetwork Communications Server for AIX, V6
• TCP/IP as part of the base operating system.

Options
• External transaction processing managers (coordination via X/Open XA interface, Server only):
  - WebSphere Application Server V4
  - TXSeries™ V4.3
  - BEA Tuxedo V6.4 or 6.5
• Databases (Server only) as a resource manager under MQ coordination:
  - Oracle 8iR3 and Oracle 9i
  - DB2 Universal Database® (UDB) V7.2
  - Sybase 12 and 12.5

DCE-Supported
• IBM DCE V3.1: To enable users to run the MQ-supplied DCE send, receive or message exits, this must be the U.S. domestic version supporting DES encryption.

Supported Programming Languages and Compilers for Application Development
• VisualAge C++ Professional for AIX, V5
• Micro Focus Server Express, V2.0.10
• COBOL Set for AIX, V1.1

For the latest on compiler support, visit: http://www.ibm.com/software/mqseries/platforms/supported.html

WebSphere MQ for iSeries, V5.3

Hardware Requirements: Any Year-2000-compliant iSeries hardware explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software shown below, and any associated applications unmodified. Responsibility to provide statement of full compatibility between machines lies with the original equipment provider (if not IBM).

Protocols: Network protocols supported are SNA LU6.2 and TCP/IP.

Software Requirements
• OS/400® V5R1

There is no client available for iSeries (except the Java client).

Connectivity
• OS/400 SNA
• OS/400 TCP/IP

Options
• External transaction processing managers (server only)
  - CICS/400®
  - WebSphere Application Server V4
• Databases (Server only) as a resource manager under MQ coordination:
  - DB2® UDB

DCE is not supported.

Supported Programming Languages and Compilers for Application Development
• Integrated Language Environment® C for iSeries
• Integrated Language Environment COBOL for iSeries
• Integrated Language Environment RPG for iSeries
• Integrated Language Environment C++ for iSeries
• VisualAge for C++ for iSeries

For the latest on compiler support, visit: http://www.ibm.com/software/mqseries/platforms/supported.html

Note: Only the Java and JMS MQ clients, and not the C client, are available for iSeries.

WebSphere MQ for HP-UX, V5.3

Hardware Requirements: Any Year-2000-compliant Hewlett Packard PA-RISC (1.1, or later) hardware explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software shown below, and any associated applications unmodified. Responsibility to provide statement of full compatibility between machines lies with the original equipment provider.

Protocols: Network protocols supported are SNA LU6.2 and TCP/IP.
Software Requirements: Software requirements are identical for server and client HP environments unless otherwise stated.

- HP-UX V11.0 with relevant Year 2000 fixes
- HP-UX V11i (11.11)

Note: SSL support on HP-11i will be via a service upgrade.

Connectivity
- HP SNAplus2
- TCP/IP as part of the base operating system

Options
- External transaction processing managers (coordination via X/Open XA interface, server only):
  - WebSphere Application Server V4
  - BEA Tuxedo V6.4 or 6.5
- Databases (Server only) as a resource manager under MQ coordination:
  - Oracle 8iR3 or 9i
  - DB2 UDB V7.2

DCE-Supported: The HP DCE/9000 version appropriate for the level of HP-UX operating system in use, provided this is compatible with DCE V1.4.1 as supplied for HP-UX V10.10. To enable users to run the MQ-supplied DCE send, receive or message exits, this must be the US domestic version supporting DES encryption.

Note: It is critical to apply HP service, patches are listed in the Release Note delivered with the HP DCE software; however, for the latest information, contact the local HP support center.

DCE names and security modules for WebSphere MQ are provided as part of the WebSphere MQ for HP-UX product.

Supported Programming Languages and Compilers for Application Development
- HP-UX ANSI C compiler
- C Softbench, V7
- aC++ (aCC) A.03.27 or A.03.30
- Micro Focus Server Express, V2.0.10
- Fully patched HP DCE/9000 application development tools (above)

For the latest on compiler support, visit:

http://www.ibm.com/software/mqseries/platforms/supported.html

WebSphere MQ for Linux on Intel®, V5.3

Hardware Requirements (Intel): Any Year-2000-compliant Intel 32-bit PC hardware (or equivalent) explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software shown below, and any associated applications unmodified. Responsibility to provide statement of full compatibility between machines lies with the original equipment provider.

Protocols: Network protocol supported is TCP/IP.

Software Requirements: Software requirements are identical for server and client Linux environments unless otherwise stated.

- Any distribution running on Kernel 2.4 with glibc Version 2.2
- Red Hat Package Manager
- libstdc++ V 3 (for C++ programming)

The following packages are also required for support of SSL channels:

- libgcc-3.0
- libstdc++-3-3.0

The Linux distributions, which have been tested and are known to meet the prerequisite levels are: Red Hat V7.1, Caldera OpenLinux Server V6.3, SuSE V7.1, TurboLinux V6.0

In order to run Java components such as the JMS or Java client, the distribution of Linux must support the IBM Java runtime environment.

Information on currently supported distributions can be found at:

http://www.ibm.com/developerworks/

Connectivity
- TCP/IP supplied with operating system

Options
- WebSphere Application Server V4 transaction monitor
- Databases (Server only) as a resource manager under MQ coordination:
  - DB2 UDB V7.2
  - Oracle 9i

Programming Supported Programming Languages and Compilers for Application Development
- MQI C and C++ libraries are provided for the gcc and g++ V3 compilers.

For the latest on compiler support, visit:

http://www.ibm.com/software/mqseries/platforms/supported.html

WebSphere MQ for Linux on zSeries, V5.3

Hardware Requirements (zSeries): S/390® or zSeries processor, or equivalent compatible and fully capable of running the specified operating system, all the corresponding supporting software shown below, and any associated applications unmodified.

Protocols: Network protocol supported is TCP/IP.

Software Requirements: Software requirements are identical for server and client Linux environments unless otherwise stated.

- Any distribution running on Kernel 2.4 with glibc version 2.1, or later
- Red Hat Package Manager
- libstdc++ V3.0 (for C++ programming)
The following packages are also required for support of SSL channels:

- libgcc-3.0
- libstdc++3-3.0

The Linux distributions, which have been tested and are known to meet the prerequisite levels are: SuSE v7.1

To run Java components such as the JMS or Java client, the distribution of Linux must support the IBM Java runtime environment. Information on currently supported distributions can be found at:

http://www.ibm.com/developerworks/

**Connectivity**

- TCP/IP supplied with operating system

**Options**

- WebSphere Application Server V4 transaction monitor
- Databases (Server only) as a resource manager under MQ coordination:
  - DB2 UDB V7.2
  - Oracle 9i

**Programming Supported Programming Languages and Compilers for Application Development**

- MQI C and C++ libraries are provided for the gcc and g++ V3 compilers.

For the latest on compiler support, visit:

http://www.ibm.com/software/mqseries/platforms/supported.html

**WebSphere MQ for Sun Solaris, V5.3**

**Hardware Requirements:** Any Year-2000-compliant Sun Microsystems UltraSPARC hardware explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software shown below, and any associated applications unmodified. Responsibility to provide statement of full compatibility between machines lies with the original equipment provider.

**Protocols:** Network protocols supported are SNA LU6.2 and TCP/IP.

**Software Requirements:** Software requirements are identical for server and client Sun Solaris environments unless otherwise stated.

- Sun Solaris 7
- Sun Solaris 8

It is recommended that the latest levels of all relevant patches to the base operating system are installed. For the latest information, refer to:

http://www.ibm.com/software/mqseries/platforms/supported.html

**Note:** Solaris systems from other manufacturers are not supported.

**Connectivity**

- Alebra Brixton PU2.1 SNA server. Release 4.1.2
- SNAP-IX V6.2, or later
- TCP/IP as part of the base operating system

**Options**

- External transaction processing managers (coordination via X/Open XA interface, server only):
  - WebSphere Application Server V4
  - TXSeries V4.3
  - BEA Tuxedo V6.4 or 6.5
- Databases (Server only) as a resource manager under MQ coordination:
  - Oracle 8iR3 and Oracle 9i
  - DB2 UDB V7.2
  - Sybase 12 and 12.5

**DCE-Supported**

- DCE 3.1 for Solaris 7
- DCE 3.1 for Solaris 8

To enable users to run the MQ-supplied DCE send, receive or message exits, this must be the U.S. domestic version supporting DES encryption.

**Programming Supported Programming Languages and Compilers for Application Development**

- SunWorkShop Compiler C Version 5
- SunWorkShop Compiler C++ Version 5
- Forte C 6 (Sun WorkShop 6 C)
- Forte C++ 6 (Sun WorkShop 6 C++)
- Micro Focus Server Express V2.0.10

For the latest on compiler support, visit:

http://www.ibm.com/software/mqseries/platforms/supported.html

**WebSphere MQ for Windows, V5.3**

**Hardware Requirements:** Any Year-2000-compliant 32-bit Intel PC hardware (or equivalent) explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software shown below, and any associated applications unmodified. Responsibility to provide statement of full compatibility between machines lies with the original equipment provider.

**Protocols:** Network protocols supported are NetBIOS, SNA LU6.2, TCP/IP, and SPX.

**Software Requirements:** Software requirements are identical for server and client Windows NT® environments unless otherwise stated.

- Microsoft Windows 98 (client support only)
- Microsoft Windows NT V4, to include TCP/IP, NetBIOS, and SPX with Service Pack 6a
- Microsoft Windows 2000 (Professional or Server Edition)
- Microsoft Windows XP (Professional or Server Edition) available after general availability, including use on iSeries Integrated Netfinity® Server. Refer to Statement of Direction section.

**Connectivity**

- IBM Communications Server for Windows NT, V5 or V6.1.1
- Attachmate Extra! Personal Client, V6.7
- Attachmate Extra! Enterprise 2000
- Microsoft SNA Server, V4
Microsoft Host Integration Server 2000
TCP/IP provided by operating system
NetBIOS provided by operating system
SPX provided by operating system

Prerequisites for Server (Windows NT only)
• Microsoft Management Console V1.1
• Microsoft Active Directory Client Extensions, required only for Active Directory
• Internet Explorer 4.01 SP1, or later
• 128-bit cipher strength encryption, recommended for SSL
• HTML Help V1.22

Prerequisites for Client (Windows 98 and NT only)
• Microsoft Active Directory Client Extensions, required only for Active Directory
• Internet Explorer 4.01 SP1, or later, required only for SSL
• 128-bit cipher strength encryption, recommended for SSL

Options
• External transaction processing monitors (server only):
  - WebSphere Application Server V4
  - TXSeries V4.3
  - BEA Tuxedo V6.4 or 6.5
  - MTS/COM+
• Databases (Server only) as a resource manager under MQ coordination:
  - DB2 UDB V7.2
  - Oracle 8iR3 and 9i
  - Sybase V12 and 12.5
• LDAP (Server only):
  - Netscape Directory Server 3.1 with relevant Year 2000 fixes
• Supported for use with WebSphere MQ client for Windows NT, Windows 2000, and Windows XP* only:
  - Microsoft Windows Terminal Server feature

Note: Windows XP support is after general availability of the product.

DCE-Supported
• DCE V1.1: To enable users to run the MQ-supplied DCE send, receive, or message exits, this must be the U.S. domestic version supporting DES encryption.

DCE support for Microsoft Windows 2000 is not yet available.

Programming Supported Programming Languages and Compilers for Application Development
• Microsoft Visual C++ V6.0
• VisualAge COBOL Enterprise, V2.2
• VisualAge PL/I for Windows, V2.1
• Micro Focus Net Express V3.0, V3.1
• Microsoft Visual Basic V6 or V7

For the latest on compiler support, visit:
http://www.ibm.com/software/mqseries/platforms/supported.html

WebSphere MQ Java Requirements
To run WebSphere MQ classes for Java Message Service (included in the product) you require:

WebSphere MQ classes for Java (as supplied in this product)

If you wish to use pub/sub applications, you also need one of the following:
• SupportPac MA0C: MQSeries — Publish/Subscribe
• WebSphere MQ Integrator V2

The following software is required to run WebSphere MQ classes for Java:

• WebSphere MQ for the server platform you wish to use (as supplied in this product)
• Java 2 Software Development Kit, or Java Runtime Environment for the server and client platforms

Note: If a TCP/IP client connection is used, the application does not have to reside on the system hosting the WebSphere MQ server.

Programming and JRE Supported Java 2 Software Development Kit and Java Runtime Environments
• IBM Developer Kit for AIX, Java Technology Edition, V1.3.1
• IBM Developer Kit for Linux, Java Technology Edition, V1.3.1 (some limitations apply to the Linux environment)
• IBM Developer Kit for OS/390®, Java Technology Edition, V1.3.1
• IBM Developer Kit for Windows, Java Technology Edition, V1.3.1
• iSeries Developer Kit for Java, V1.3
• HP-UX SDK, for the Java platform, V1.3.1
• Java 2 Standard Edition, for the Solaris Operating Environment, SDK 1.3.1

For full provision of SSL authentication to enable WebSphere MQ Java and JMS applications to benefit from secure connection to the queue manager (authentication, message integrity, data encryption), a platform Java Runtime Environment (JRE) at V1.4.0 is required.

For details on IBM Developer Kits, visit:
http://www.ibm.com/developerworks/java

Specified Operating Environment for Client Only Platforms
WebSphere MQ Clients are also available as a Product Extensions (Category 3 SupportPacs). Visit:
http://www.ibm.com/software/mqseries/txppacs/

WebSphere MQ client for Windows: In this release, a single Windows client covers Windows platforms. Refer to the section on Windows support above.

For details on WebSphere MQ family platforms, messaging links, gateways, and interfaces, WebSphere MQ Integrator platforms, MQSeries Workflow platforms, and additional information, access:
http://www.ibm.com/software/mqseries/platforms
Problem determination (PD) is an assessment of whether the customer must confirm that they have sufficient Use Authorizations to use the system. The customer will identify the tier in which they fit, and then calculate the level of Capacity Unit Charge for the product. To determine if the problem is caused by hardware or software, PD is complete only when the cause of the problem is identified. This assessment includes examination of available symptoms using the PD procedures documented in the product.

Performance Considerations: Performance of the system is dependent on the speed and latency of transmission links, the speed of processors and storage media used in devices and servers, and the total demand on server resources.

Planning Information

Clarification of Capacity Unit Requirements for WebSphere MQ Products: This section applies to all WebSphere MQ server products priced using WebSphere MQ Capacity Units.

• To order a new license of an WebSphere MQ server product, use the new Capacity Unit table.

• To upgrade from earlier releases of WebSphere MQ using Passport Advantage within the same processor group (in the new table), you do not need to order any additional Capacity Units, even if the number of Capacity Units required for your processor group increased using the new table. To upgrade from an earlier release of MQSeries using Passport Advantage with a different processor group (in the new table), use the Capacity Units you have (which may be based on the old table), and then acquire additional Capacity Units (if necessary) to satisfy the requirements of the new table. Any “spare” Capacity Units may be used toward other WebSphere MQ entitlement, but are not refundable.

Customers with current upgrade protection in Passport Advantage who use WebSphere MQ on the same machine can continue to get upgrades without purchasing more Capacity Units.

• Customers who upgrade should retain their original product as proof of entitlement (PoE) to use with the old table.

For further pricing and licensing information, visit:

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

Customer Responsibilities: The customer must provide the minimum hardware and software environments in which the licensed programs run.

The customer must identify the machines on which they will install WebSphere MQ. The customer or program provider will identify the tier in which they fit, and then calculate the level of Capacity Unit Charge for the required Use Authorization. Before operating the system, the customer must confirm that they have sufficient Use Authorization to use the system.

Problem determination (PD) is an assessment of whether a problem is caused by hardware or software. PD is complete only when the cause of the problem is identified. This assessment includes examination of available symptoms using the PD procedures documented in the product.

Installability: WebSphere MQ, V5.3 is a complete replacement for the previous release. This version requires reinstallation, and cannot be updated from the previous V5.2 product by applying a service fix. Existing configuration information is preserved.

Packaging

WebSphere MQ, V5.3: The packaging of WebSphere MQ, V5.3 is media packs or software download only. The product is sold only through Passport Advantage; no shrinkwrap packages are available.

The version for AIX is also available on the AIX stack. This program when downloaded from a Web site, contains the applicable IBM license agreement, and License Information (LI), if appropriate and will be presented for acceptance at the time of installation of the program. The license and LI will be stored in a directory such as LICENSE.TXT for future reference.

Security, Auditability, and Control

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

Ordering Information

WebSphere MQ products use a flexible pricing structure. The pricing structure simplifies the development and management of complex applications, particularly for large organizations.

There is only one charge unit for these products, the Capacity Unit.

The price model is structured over tiers that are defined by machine type (for iSeries) or numbers of processors. The greater the number of processors per machine, the higher the tier position and the more Use Authorizations needed to use the program. This applies to each machine and machine upgrade. Capacity Unit Use Authorization is required for each machine according to the table. Capacity units are not supplied with media packs, and must be acquired separately under Passport Advantage.

Upgrades and transferability: Passport Advantage customers with Upgrade protection are entitled to upgrades to the WebSphere MQ, V5.3 media pack as follows:

Existing product:

• MQSeries for AIX, V5.2
• MQSeries for AS/400®, V5.2
• MQSeries for HP-UX, V5.2
• MQSeries for Linux, V5.2
• MQSeries for Sun Solaris, V5.2
• MQSeries for Windows NT and Windows 2000, V5.2
• MQSeries for Windows NT and Windows 2000, V5.2.1
**Passport Advantage**

**Program Name**

- WebSphere MQ V5.3 Media Pack Multilingual BA05SML
- WebSphere MQ V5.3.1 Media Package — Multilingual BA05TML
- WebSphere MQ V5.3 Capacity Unit LIC/SW MAINT 1 ANNV D5AA3LL
- WebSphere MQ V5.3 Capacity Unit LIC/SW MAINT 2 ANNV D5AA4LL
- WebSphere MQ V5.3 Capacity Unit SW MAINT RNWL 1 ANNV E1AA5LL
- WebSphere MQ V5.3 Capacity Unit SW MAINT AFT LIC 1 ANNV D5AA6LL

**WebSphere MQ V5.3 Media Package**

- Multilingual BA05SML
- WebSphere MQ V5.3.1 Media Package — BA05TML

**Passport Advantage Customer — Media Pack Entitlement Details:** Customers with active maintenance or subscription for the products listed below are entitled to receive the corresponding media pack.

**Entitled Maintenance Offerings**

- MQSeries for Windows, V5.2
- MQSeries for Windows, V5.2.1
- MQSeries for AIX, V5.2
- MQSeries for Sun Solaris, V5.2
- MQSeries for HP-UX, V5.2
- MQSeries for Linux, V5.2
- MQSeries for AS/400, V5.2
- MQSeries Capacity Unit

**Description**

- W/S MQ V5.3 Media Pack Multilingual BA05SML
- W/S MQ V5.3.1 Media Package — Multilingual BA05TML

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**Terms and Conditions**

**Licensing:** IBM International Program License Agreement. Proofs of Entitlement are required for all authorized use. Part number products only, offered outside of Passport Advantage, where applicable, are license only and do not include Software Maintenance.

**Limited Warranty Applies:** Yes

**Program Services:** WebSphere MQ Version 5.3 — Available until December 31, 2004: Service is extended on the MQSeries V5.2 products to December 31, 2003, to allow at least 12 months overlap of service between the two products.

**Money-Back Guarantee:** 30-day, money-back guarantee, applicable to the first instance per customer enterprise. The money-back guarantee will commence on the invoice date.

**Copy and Use on Home/Portable Computer:** No

**Volume Orders (IVO):** No

**passport Advantage Applies:** Yes. Visit:

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

**Usage Restriction:** Yes

For this program, the program license Charge Unit is based on the number of processors by server. Capacity Units are available in units of one, and are required for every machine on which the server component contained in the program’s media package is installed (with the exception of the client components or sample programs). No separate server authorization is required.

The number of Capacity Units required for use of the program on any machine is based on the number of symmetrical multiprocessors (SMP) in the machine, or for iSeries on the processor group, per the following tables:

<table>
<thead>
<tr>
<th>Total Capacity Units Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® 1 Uniprocessor machines</td>
</tr>
<tr>
<td>Intel 2-way SMP machines and RISC 1-2 processors per box/Symmetrical Processor (SP™) node</td>
</tr>
<tr>
<td>Intel/RISC 3-8 processors per box/SP node</td>
</tr>
<tr>
<td>Intel/RISC 9-23 processors per box/SP node</td>
</tr>
<tr>
<td>Intel/RISC 24 or more processors per box/SP node</td>
</tr>
</tbody>
</table>

1 Intel machines include compatible processors such as Cyrix and AMD.

**UNIX® and Intel® Servers**

**iSeries Servers**

- iSeries processor group P05 2
- iSeries processor groups P10 and P20 4
- iSeries processor groups P30 and P40 8
- iSeries processor group P50 16

**Transferability:** Users who upgrade within the same processor group from an earlier release or version of the Program (which was previously known as "MQSeries") using Passport Advantage do not need to order any additional capacity units.

To upgrade otherwise than within the same processor group from an earlier release or version of the Program using Passport Advantage, users may use their existing Capacity Units, and then acquire additional Capacity Units (if necessary) to satisfy the requirements of the appropriate table. Any “spare” Capacity Units may be used towards other Program entitlement, but are not refundable.

For details of ordering Capacity Units (obtainable via Passport Advantage), refer to the Ordering Information section.

Users should retain their original product and Capacity Units as PoE.

The above tables do not include capacity unit requirements for WebSphere MQ for Linux on zSeries, V5.3, which will be published separately before that product is available.

For further information on terms and conditions, refer to:

http://www.ibm.com/software/mqseries
Software Maintenance Applies

IBM Operational Support Services — Support Line: No

AIX/UNIX Upgrade Protection Applies: No

Entitled Upgrade for Current AIX/UNIX Upgrade Protection Licensees: No

iSeries Software Subscription Applies: No

Variable Charges Apply: No

Educational Allowance Available: Not applicable.

Prices

Contact your sales channel for Support Line pricing information.

Passport Advantage: For Passport Advantage and charges, contact your authorized IBM Business Partner. Additional information is also available on the Passport Advantage Web site:

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

Customer Financing: IBM Global Financing offers attractive financing to credit-qualified commercial and government customers and Business Partners in more than 40 countries. IBM Global Financing is provided by the IBM Credit Corporation in the United States. Offerings, rates, terms, and availability may vary by country. Contact your local IBM Global Financing organization. Country organizations are listed on the Web at:

http://www.financing.ibm.com

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You can also contact your local IBM Business Partner or IBM representative. To identify them, call 800-IBM-4YOU.

Note: Shipments will begin after the planned availability date.

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