



IBM Software Group

WebSphere MQ v6

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WebSphere software



What Are We Announcing?

Market Leading Integration Technology Innovation

WebSphere.

WebSphere MQ Version 6.0

Updates to the original middleware, delivering universal connectivity for more flexible application integration and to provide the foundation of an Enterprise Service Bus

Plus incremental enhancements to WebSphere software business process capabilities

- WebSphere MQ Workflow
- WebSphere Business Integration Modeler
- WebSphere Business Integration Server Express

What's new

- Improved administration and manageability of application connections
- Enhanced platform and operating system support for increased integration flexibility and efficiency
- Enhanced Web Services support for ease of enabling a SOA

Open Beta – April 19
General Availability – May

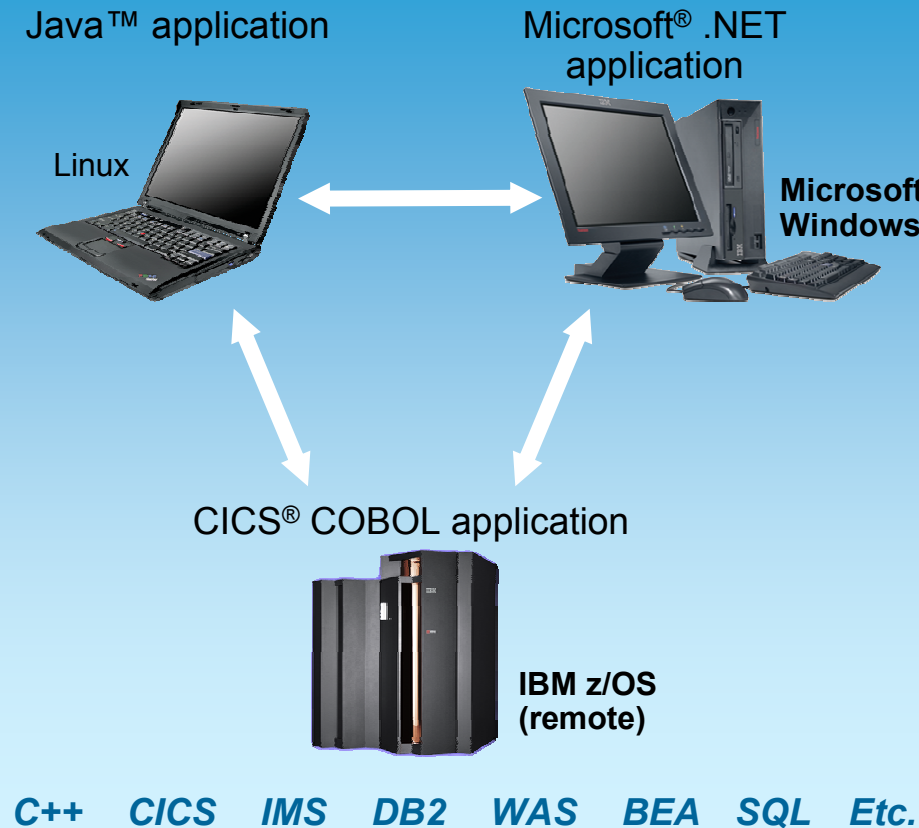


Starting Simple:

Connect Applications to Address Immediate Business Needs

Simple Application
Connections

Scenario



- Helps to ensure the reliability and integrity of application integration solutions for confident regulatory compliance
 - ▶ Assured once-only message delivery
 - ▶ Proven experience of **12,000+ MQ customers**
- Lower the cost of maintaining point-to-point applications
 - ▶ Save up to **3 times the cost of integration** using custom and FTP solutions
- Integrate across a broad set of platforms and application environments
 - ▶ Support for **80+ operating system configurations**
 - ▶ Broad Standards support
 - JMS API
 - MQI API
 - SOAP
 - IPv6
 - Eclipse
 - SSL

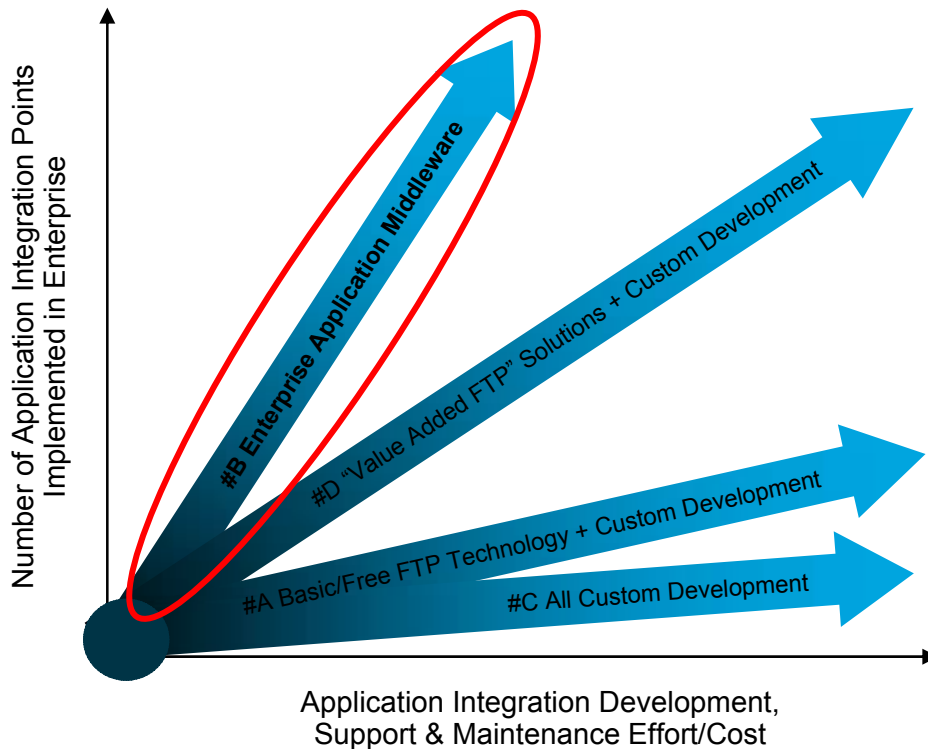
With WebSphere MQ delivering flexible application connections



Comparing Costs of Application Integration Options

IBM application integration can save up to 3 times cost of integration

**Enterprise Application Integration
Effort/Cost by Integration Approach Used**



***The more applications
you integrate the more
you save!***

	Results Compared to Option #B (Option #B Baseline)
Option #C	3 - 4 Times Higher
Option #A	2.4 - 3.6 Times Higher
Option #D	1.3 - 2.2 Times Higher
Option #B	1.0 Baseline

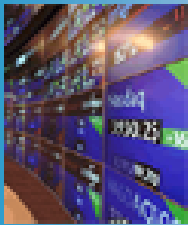
Application Integration Approaches – Multiple of Lowest Development Resource Effort/Cost



WebSphere's Proven Experience

Relied on by Thousands of Clients Around the World

Simple Application Connections



Financial Markets:

- 100's of millions of messages per day
- \$1 trillion per day on MQ network
- £400 billion worth of messages per day



Government Clients:

- 675 million message per day
- Approximately 7,500 agency users and average of 50,000 citizen transactions per day



Banking Clients:

- Between \$7 and \$35 trillion per day on MQ based SWIFT gateway
- Over 213 million messages per day just on z/OS
- Over 350 million message per day



Relying On WebSphere to Help Meet Regulatory Compliance

“We needed a single integration platform that would allow all our applications to access and share information and enable them to collaboratively process transactions based on common business rules.”

Mildre Wampler, Chief Architect,
Independence Blue Cross

10 Years of proven experience, 10's of billions of messages everyday



WebSphere MQ V6 Technical Overview

- **The next slides show some of the highlights ...**
- **Approximately 200 lineitems were included**
- **Many customer and partner requirements**



Platform Coverage

- **AIX, Solaris, HP-UX 11i**
- **Linux/x86, Linux/pSeries, Linux/zSeries**
- **z/OS**
- **Windows 2000, XP, 2003**
- **OS/400**

- **Statement of Direction for additional platforms eg HP-UX Itanium in 2H05**

- **Also continuing to update other platforms:**
 - VMS is now at V5.3, Tandem NSK will get V5.3 later this year



Making it easier to configure WMQ

- **A new graphical configuration tool based on Eclipse**
 - Runs on Linux and Windows
 - Replaces the MMC snap-in on WMQ V5.3 for Windows
- **Can connect to, and configure, WMQ on all platforms**
 - Including WMQ V6 for z/OS and older levels of WMQ on other platforms
- **Extensible**
 - We expect to deliver more plug-ins in the future
 - Vendors and users can develop new function and integrate seamlessly
- **Public interfaces permit additions to “right mouse button” menus**
 - Plug-ins do not need to duplicate work like getting list of queue mgrs
- **A simple file transfer utility for immediate out-of-the-box benefit**



New WebSphere MQ V6 User Interface

Simpler Administration

Simple Application Connections

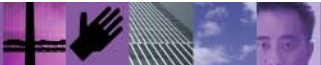
The screenshot shows the IBM WebSphere MQ Explorer interface. The left pane displays a tree view of the queue manager 'red', including Queue Managers, Queue-sharing Groups, and Queue Manager Clusters. The main pane shows 'Repository data for queue manager red' with tabs for Cluster Queues, Cluster-sender Channels, and Cluster-receiver Channels. A diagram shows a connection from 'red' to 'SASQUATCH.QM'. Below, a table lists cluster-sender channels:

Xmit protocol	Cluster queue manager	Channel name	Definition type	Queue name
TCP	SASQUATCH.QM	TO.SASQUATCH.QM	Auto explicit cluster-sender	Repository

The screenshot shows the WebSphere MQ Help Center. It features a search bar and a list of contents. Two tutorial cards are visible:

- Sending a message to a local queue:** Shows a diagram of a queue manager (QM_APPLE) with a queue (Q1). The text explains how to set up a queue manager and a queue on a local installation.
- Sending a message to a remote queue:** Shows a diagram of two queue managers (QM_ORANGE and QM_APPLE) connected by a channel (QM_ORANGE_QM_APPLE). The text explains how to set up messaging between a queue manager on one computer and a queue manager on another computer.

The screenshot shows the 'WebSphere MQ File Transfer' dialog box. It has 'Send' and 'Receive' tabs. The 'Send' tab is active, showing a file named 'ACME 19April.xls' with a 'Browse...' button. The 'Comments' field contains 'Hi Frank, here!'. The 'Destination' field is set to 'Company Ca'. A progress bar shows '1.4 of 2.33 Mb sent (75% complete)'. There are 'Send' and 'Cancel' buttons. At the bottom, there is a 'Show files sent and received' checkbox and a table with columns 'Name', 'Time', and 'To'.



Who is using the queue manager

The screenshot shows the IBM WebSphere MQ Eclipse Platform interface. The main window displays the 'Queue Manager QM1' configuration page. A dialog box titled 'QM1 - Administer Connections' is open, showing a table of applications connected to the queue manager. Two red circles highlight the 'Close Connection...' button and the table of objects accessed by the application 'les\MQSeries\bin\amqspu.exe'.

Queue Manager QM1 Configuration:

- Running status: Running
- Connection status: [Details]
- Refresh interval: [Details]
- Properties: [Details]
- QuickView: [Details]
- Scheme: Default for Queue Mana
- Application Connections: [Details]
- Connections to this queue manager: [Details]

QM1 - Administer Connections Dialog:

View By Application | View By Object

Applications connected to QM1:

Application tag	Application type	Process ID	Connection id	User identifier
les\MQSeries\bin\amqspu.exe	Windows	6136	414d5120...	metaylor
es\MQSeries\bin\runmqchi.exe	Windows	4376	414d5120...	metaylor
es\MQSeries\bin\amqzmur0.exe	Windows	5668	414d5120...	metaylor
es\MQSeries\bin\amqzfuma.exe	Windows	4444	414d5120...	metaylor
es\MQSeries\bin\amqzdmaa.exe	Windows	4248	414d5120...	metaylor
es\MQSeries\bin\amqrrmfa.exe	Windows	3192	414d5120...	metaylor
es\MQSeries\bin\amqpcsea.exe	Windows	812	414d5120...	metaylor
30\eclipse\jre\bin\javaw.exe	Windows	2656	414d5120...	metaylor

Queue manager objects accessed by application 'les\MQSeries\bin\amqspu.exe':

Object name	Object type	Open options	Channel name
X	Queue	<not_foun...	

Buttons: Close Connection..., Refresh, Close

Managing z/OS – adding PCF commands

- **Making it easier to write administration and monitoring programs**
 - Same programs can drive z/OS and Distributed platforms
- **z/OS Command Server is now able to handle both formats**
- **PCF structures extended to handle the multiple sets of responses from QSGs**
 - Other extensions to the “language” for new structures
 - eg 64-bit, name-value pairs
- **All appropriate z/OS commands get PCF definitions**
 - There are still a few that only make sense for local consoles
 - eg START/STOP TRACE



Extend support for z/OS availability features

- **WMQ V6 makes system config on z/OS much more dynamic**
 - Trying to remove reasons to shutdown/restart
 - Flexible response to changes in workloads
- **Many CHIN configuration parameters can be modified online**
 - Instead of being set in CSQXPARM
- **Dynamic add and remove of pagesets and buffer pools**
 - Pagesets can grow to 64GB, allowing larger queues
- **Dynamic add and remove of buffers from buffer pools**
- **Dynamic add of log datasets**
 - If current log fills (eg archiving not working because of offline tape device) can add extra log datasets while problem is fixed
- **Pre-emptive dynamic pageset expansion**



Completion of Shared Queue support for z/OS

- **Shared queues improve availability as applications can continue to process messages even when a queue manager or LPAR fails**
- **Function shipped in stages, over several releases of WMQ**
 - This release completes the core function needed on shared queues
- **Messages larger than 63KB are now supported**
 - Can go up to 100MB
 - Same size as messages on private queues
- **Message body for messages >63KB is stored in DB2**
 - Small messages stored as previously, in CF
 - Read performance reports to compare with private queues



Problem determination (and avoidance) indicators

■ Showing current Channel and Queue Status

- Cluster transmission queue subdepth and average throughput times
- Average batch size
- Channel "Substate" - sending on wire, waiting for nameserver, in an exit ...
- Response time from remote end
- Average time messages lived on queue (short & long-term averages)
- Last GET/PUT times
- Oldest message still on queue

DISPLAY QSTATUS (TESTQ)

AMQ8450: Display queue status details

QUEUE (TESTQ)	IPPROCS (1)	OPPROCS (1)
CURDEPTH (24)	UNCOM (NO)	
LPUTDATE (2004-04-16)	LPUTTIME (18:09:16)	
MSGAGE (323)	QTIME (1340,4540)	
MEDIALOG (S0000001.LOG)		

System Statistics and Accounting Information

- **Statistics are useful for checking what applications and the queue managers are doing. Could be used for charge-back or capacity planning.**
- **SMF-style data now available for Distributed platforms**

```
QueueManager: klein
IntervalEndDate: 2004-08-10
IntervalEndTime: 14:39:50
CommandLevel: 600
SeqNumber: 0
ApplName: amqspat.exe
ApplicationPid: 9408
ApplicationTid: 1
UserId: 'metaylor'
ObjectCount: 1
```

```
OBJECTS:
QueueName: 'APP.QUEUE.X'
  QueueType: Predefined
  QueueDefType: Local
  OpenCount: 1
  OpenDate: 2004-08-10
  OpenTime: 14:39:49
  CloseCount: 1
  CloseDate: 2004-08-10
  CloseTime: 14:39:50
```

```
PutCount: [0, 1]*
PutFailCount: 0
Put1Count: [0, 0]
Put1FailCount: 0
PutBytes: [0, 4]
PutMinBytes: [0, 4]
PutMaxBytes: [0, 4]

*array shows non-
persistent, persistent
```



Standards

- **JMS 1.1 support**
 - Meeting the current standard
 - WMQ V6 includes a publish/subscribe broker (previously a separate download)
 - XMS available for non-Java programmers
- **IPv6**
 - Permits use of the latest networking standard
 - Support for dual-stack machines so no enforced "big bang" migration
- **SOAP over MQ**
 - Web Services messages transported over a reliable messaging backbone
 - For Axis and .Net
 - No need to change application code, just the URI for deployment
 - Compatible with new CICS feature

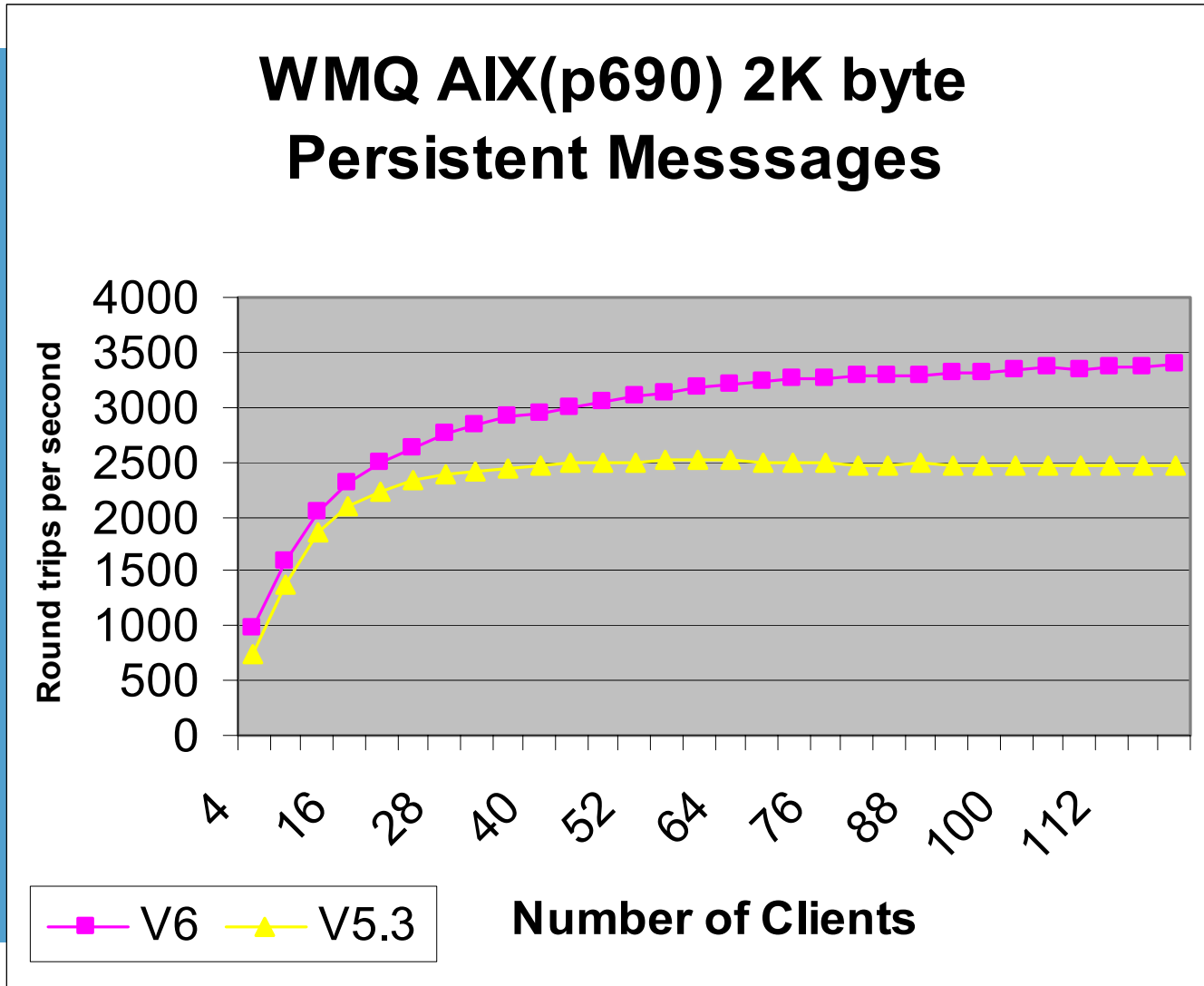


Scalability and Performance

- **On AIX, HP-UX, Solaris, Linux/pSeries, WMQ is now 64-bit engine**
 - Supports existing 32-bit applications
 - Two sets of MQI libraries provided, for 32-bit and 64-bit development
 - Most exits (eg channel) will need to be provided in both “sizes”
- **Some customers want to use 64-bit memory for their applications**
 - No real performance difference for applications unless apps are redesigned
- **64-bit benefit mostly seen inside the queue manager**
 - Permits WMQ to handle more data (messages, queues) concurrently
- **Built-in compression for all channel types**
 - Selection of algorithms to efficiently handle text and XML messages
 - Also works on WMQ headers



Example of improved performance



New Business Process Technology Enhancements Available Now

Improving Administration, Manageability and Platform Support

WebSphere MQ Workflow V3.6

Managing workflows over WebSphere MQ involving people interactions

- New native Java Client API implementation
- Enhanced ease of installation and configuration
- Support for shared queues on z/OS
- Currency with new releases of platforms and databases

WebSphere Business Integration Modeler V5.1.1.2

Enabling modeling, simulating and optimizing of business processes

- New user-defined Classifications & Coloring supporting modeling for standards such as Sarbanes-Oxley, LOVm, and Six Sigma
- Enhanced dynamic analysis support with resources, costs, timing, and decision percentages
- Ability to import and export XML

WebSphere Business Integration Server Express V4.4

Proving out-of-the-box integration for mid-size companies enabling faster implementation of standard business processes

- New easy to use Wizards to create and modify business rules
- Enhanced tooling for easy integration with WebSphere Portal Servers
- Simplified remote deployment and configuration
- Expanded set of pre-built adapters, including WebSphere Commerce, HTTP, TCP/IP, and Health care Data Protocols
- Tooling for adapter creation*
- Easy integration with Microsoft BizTalk adapters*

* Available as an IBM developerWorks tech preview



Reinforcing IBM WebSphere's Integration Leadership

No one integrates more **Reliably**

- ▶ **12,000+ WebSphere MQ clients** strong
- ▶ **10's of billions of messages** everyday
- ▶ Over **120 patents** filed for WebSphere MQ
- ▶ **10+ years investment** in integration product innovation
- ▶ Proven end-to-end transactionality
- ▶ **Enhanced** Direct support for CICS and native support on z/OS
- ▶ **New** New user-defined Classifications & Coloring in WebSphere Business Integration Modeler



"In the world of finance, the WebSphere MQ messaging platform is the standard for integration solutions."

*Martin Frick,
Raiffeisen Group*

No one integrates more **Flexibly**

- ▶ **New SOAP support**, delivering portfolio-wide Web services support for virtualization
- ▶ **New Linux support - over 80 operating system configurations** supported
- ▶ **New FTP tooling** for ease of file transfer
- ▶ **New Eclipse-based**, easy to use **configuration tools** for ease of manageability
- ▶ Integrated ESB support for **mobile and wireless**
- ▶ **New** expanded set of adapters and adapter tooling in WebSphere Business Integration Server Express



2004 Gold Medal Award Winner:
IBM, for WebSphere MQ Family of Software Products

No other software company has achieved this honor and validation of excellence!

