

IBM WebSphere MQ

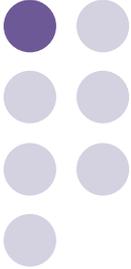


**WebSphere** software

**WebSphere MQ delivers real value today and tomorrow.**



## Exchange data reliably every time.



### Introduction

What do these activities have in common?

- A customer uses an ATM to make a transfer of money
- A supplier pulls the latest specifications out of a manufacturer's bill of materials
- A trader initiates an intricate sequence of moves in a complex arbitrage strategy

They and many like them depend on the reliable exchange of data between systems. Without it, organizations couldn't fulfill orders, manage a supply chain, satisfy customers, close the books or do any of the things we've come to expect as routine. Organizations take this reliable exchange of data for granted, but it is difficult to achieve.

A number of factors complicate the exchange of data: differences between systems, changes in a business process and unexpected system component failures. Such complications happen so frequently, it is surprising that as much business gets transacted as smoothly as it does. A change to any element—systems, network, data or process can bring everything to a sudden stop.

Organizations need to exchange the data reliably every time or be informed that it didn't happen. They need to know the data is delivered once and only once. Every party in the process needs to be assured that the expected exchange actually took place with full transactional integrity—that each unit of work, with all of its constituent parts, was committed intact, all or nothing.

Ensuring that data can be exchanged between disparate systems reliably and with speed and transactional integrity is a difficult trick to pull off. And it gets even trickier when things don't work as anticipated. Yet this is exactly the challenge IBM has addressed for over a decade: first with IBM MQSeries® and now with IBM WebSphere® MQ.

### Beyond FTP

Mechanisms for exchanging data between different systems have existed for quite some time. Manually copying data between systems works, although it's prone to error and delay. Another popular approach is FTP. FTP doesn't require sophisticated tools and even novice programmers can do it.

The problem with FTP, however, is reliability. It provides no mechanism to ensure the message is delivered promptly or at all. FTP by itself offers no way to acknowledge receipt of the message or to track message delivery. It also is difficult to control programmatically, making it hard to improve any business processes that depend on FTP to move data. Today 70 percent of data is sent via FTP both within and between businesses.

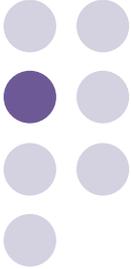
The financial services industry was the first to realize it needed something utterly reliable when financial data was at stake. Without assured, guaranteed one-time delivery, organizations couldn't risk the exchange of financial data across networks. In response, IBM created what was to become MQSeries. MQSeries pioneered the concept of enterprise messaging middleware. It was designed to provide consistent, reliable one-time delivery.



*WebSphere MQ supports over 80 platform configurations, so it can integrate virtually any commercial IT system.*

MQSeries relied on a small set of commands, now standards-based, across all systems and implementations to send a message, ensure one-time delivery, acknowledge receipt and alert senders should problems occur. As a key design point, MQSeries could mediate between different systems as it helped guarantee delivery. The financial services industry quickly adopted MQSeries for mission-critical, high risk financial transactions; other business segments did the same.

Other messaging middleware products followed, but none had the track record of MQSeries in assuring delivery, managing transactions or running on as many platforms. Programmers learned to build some of the assured delivery capabilities with FTP through the use of complex coding and scripting. Even where these efforts worked, however, they proved slow, difficult and costly, both to build and to maintain.



### Expanding the MQSeries value proposition

It quickly became clear to most organizations that messaging middleware like MQSeries could play a valuable role for critical business transactions. With the rise of the Internet economy, Web services and service oriented architecture (SOA), organizations realized they also could benefit from guaranteed message delivery even when it didn't involve critical transactions.

As it turned out, wherever organizations wanted to exchange data between disparate systems, messaging middleware like MQSeries, now WebSphere MQ, could do the job better, more easily and at a lower cost over the long term due to the ease with which it could accommodate change. In addition, with WebSphere MQ, applications themselves could become less complex and require fewer changes. At the least, WebSphere MQ simplified the task of tracking, auditing and reporting message exchanges even in situations where guaranteed one-time delivery wasn't essential and where the convoluted scripting associated with FTP was not needed.

In practice, applications simply need to invoke the WebSphere MQ functions using common, language-independent commands, to reduce the programming required and protect themselves from changes in the applications and infrastructure. And for those using FTP widely in their enterprise, WebSphere MQ can add the reliability and tracking essential for businesses today, but without changing the application's use of FTP. Instead, WebSphere MQ acts as the transport for the FTP transfer.



The long-standing MQ value proposition—increased ease, flexibility and auditability along with more reliable message delivery—became appealing for a wide range of situations in which organizations previously relied on basic Java™ messaging service (JMS). “Organizations have begun to realize that WebSphere MQ can address many more things,” says Leif Davidsen, WebSphere MQ worldwide product marketing manager. “It enables a truly decoupled environment through methods like publish and subscribe, which allow a more flexible way to distribute information.”

With the rise of SOA and Web services and the heightened interest in meeting various compliance mandates, the kind of reliable connectivity delivered by WebSphere MQ suddenly becomes much more valuable. “Doing this kind of work programmatically is very difficult. Then maintaining it as things change becomes a nightmare. Before you know it, you're building messaging middleware rather than focusing on your core competencies,” Davidsen notes.

Betsy Matthew, vice president, Application and Integration Middleware Technical Support and Customer Service adds: “WebSphere MQ not only provides the point-to-point transaction processing that thousands of companies require every day—moving billions of transactions daily—but it helps with many other aspects of their businesses.”

With the evolution of WebSphere MQ, organizations now have a single messaging middleware solution for the entire enterprise, a solution that can range from mission-critical transactions to loosely coupled Web services and SOA environments. WebSphere MQ is content-agnostic, able to handle everything from a 16-byte transactional message to a 2GB or larger video file.

#### **Versatility to meet common challenges**

Organizations are taking advantage of the versatility of WebSphere MQ to meet common challenges. For example, Wachovia Bank, one of the top six banks in the US, has grown greatly through acquisitions and mergers. It turned to WebSphere MQ to facilitate the integration of the systems from its acquired entities.

“The greatest challenge that we have with mergers is actually the multiple data sources that we end up having to use,” says David Griffes, manager of Wachovia’s Application Server Competency Group. “Each bank typically comes in with its own set of data and it’s usually on a different platform. We have to find some way to merge that together, to make the customer experience as seamless as possible.”

*“WebSphere gives us the ability to talk to different platforms in a seamless fashion.”*

— David Griffes, manager of the Application Server Competency Group, Wachovia Bank

For this, Wachovia turned to WebSphere and WebSphere MQ. “WebSphere really is the backbone of many of our applications now. WebSphere gives us the ability to talk to different platforms in a seamless fashion,” Griffes continues.

WebSphere MQ brings the assurance of guaranteed, one-time only data exchange. “To us as a bank, each transaction becomes an important piece of our business. And we need to know that those transactions are going to take place. We use WebSphere MQ because we know that we have guaranteed delivery if we so desire,” Griffes explains.

WebSphere MQ has emerged as a key piece of Wachovia’s technology framework. Beyond assured message delivery and transaction integrity, it helps Wachovia leverage its existing IT infrastructure while extending it for new channels and new lines of business. “Within the bank, there’s every flavor of OS on the UNIX®, on Microsoft® Windows®, on the mainframe. We use them all. WebSphere MQ allows us to be able to talk across those platforms, without worrying about the proprietary format or language for each application. That really enables us to get to market quicker,” Griffes concludes.



It is not just financial institutions that are leveraging the power of WebSphere MQ. Online retailer Quixtar, for instance, turned to WebSphere MQ to ensure business-to-business availability of its multiple systems. It needed to support 24x7 online operations and recover quickly in the event of a system outage. It also needed reliable integration of applications and Web services while leveraging its existing software and hardware investment. WebSphere MQ proved to be the one tool that could do all of this and do it well.

The Singapore Housing & Development Board found itself under pressure to cut costs. It embarked on a strategy to migrate to the Internet, develop an intranet and bring in Linux®. At the same time, it needed to leverage its existing legacy platforms. Seeking a standards-based solution, it turned to WebSphere MQ, which enabled the organization to make its migration while maximizing manageability, scalability, security and availability.

#### IBM messaging patents

IBM's messaging innovation has generated hundreds of patent filings and invention disclosures resulting in dozens of patents to date. Below is a small sample of IBM WebSphere MQ patents.

US Patent #	Product area	Description
US2005021843	Publish/Subscribe	Publish/subscribe messaging system
US2002066080	Trace	Tracing the execution path of a computer program
US2004088712	Transactions/Message persistence	Persistent messaging in a transaction processing environment
US2004244007	Triggering/Scalability	Workload balancing
US6792604	Core qmgr (ipc)	Interprocess communication mechanism

### Proven technology

With over 10,000 customers, WebSphere MQ has become “the de facto standard in the industry. We have about 80 percent market share because it is absolutely the best at point-to-point application integration,” says Tom Inman, vice president of marketing for Information Management, IBM Software Group.

WebSphere MQ is proven, innovative technology with the most patents and the broadest platform support possible. “We designed MQ from the start to cover all possible environments in terms of operating systems, platforms and programming languages. When we started, we knew it had to work well with everything, and it does today and will continue to do so in the future,” adds Ben Mann, worldwide product manager for WebSphere MQ. WebSphere MQ today supports over 80 platform configurations.

Initially developed for financial transactions on the mainframe, WebSphere MQ has steadily evolved to accommodate the latest changes in the industry, including Java, Microsoft .Net and Microsoft C#. It works equally well with CICS applications, Web services and distributed SOA environments. “WebSphere MQ is not Java, but it is architected to accept Java or whatever language the programmer speaks,” says Mann.

WebSphere MQ not only protects the organization's existing environment but prepares the organization for the future. “With the new release of WebSphere MQ, one of the things that we are adding is better support and management of not just WebSphere MQ assets, but also standards like JMS and Web services so it can connect easily to the other elements of the systems environment,” says Marie Wieck, vice president of Application Infrastructure Services, IBM Global Technology Services.

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— Ben Mann, worldwide product manager,  
IBM WebSphere MQ

As a full part of IBM's strategic integration platform, WebSphere MQ handles the broadest range of integration while being able to assure the delivery of a message once and only once. In the process, it can take an organization's messiest multi-platform environment and creates the image of a single, distributed entity optimized end-to-end that is able to ensure delivery and transaction integrity.

### Not just financial transactions

For a decade, organizations relied on MQSeries for their mission-critical financial transactions and most still do today. It helped assure message delivery and transaction integrity with high performance.

With WebSphere MQ, however, the technology rapidly moved beyond CICS and the mainframe to embrace the latest approaches to technology from open distributed systems to Web services to SOA, responding to the latest standards and needs as they develop. Today it is being adopted as a flexible, cost-effective, multi-purpose messaging integration platform by all kinds of organizations.

### Learn more

For more information about WebSphere MQ, visit [ibm.com/webspheremq](http://ibm.com/webspheremq)

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