



Highlights

- Make every message count
 - Work with your existing applications
 - Messaging, everywhere
 - Protect against the unexpected
 - Secure data movement
 - Integrated file transfer
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Connect and protect with IBM MQ V9.1

*Flexible and reliable hybrid messaging solution
across on premises and clouds, provided by
the market-leader*

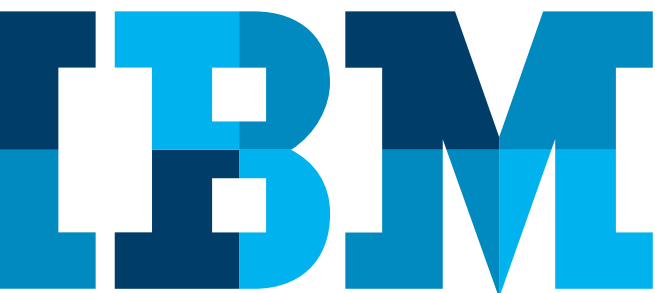
Introduction

With the adoption of cloud and the rise of digital, the way leaders run their businesses is rapidly changing. The explosion in connectivity within businesses and their partners, combined with the growth of IoT and mobile, is driving business leaders to explore new opportunities. At the same time, born-on-the-cloud initiatives are also challenging traditional ways of working. Cloud deployments and cloud usage models are affecting all businesses whether they are moving some, all, or none of their workloads to public cloud environments.

As well as deploying on multiple clouds, organizations are increasingly adopting a hybrid cloud model as a way of taking advantage of cloud benefits, whilst maximizing on-premises investments. Whilst the cloud promises agility, scalability, and flexibility, on-premises deployment offers security, reliability, compliance, and access to specific systems that cloud applications might not yet reach, as well as ensuring data is retained and controlled within a specific environment and location.

Messaging connects applications, systems, and services in your back-end on-premises systems and in the cloud by transporting valuable data within your enterprise. With asynchronous messaging, you have greater assurance that data is not lost and that systems continue to function when there are connectivity issues, as there might be between clouds and on-premises environments.

IBM® MQ is an enterprise messaging solution that securely and reliably connects applications, systems, services and files across multiple platforms. MQ transports data between these points via a queuing system that ensures delivery in case of network or application failure.



Since its initial release in 1993, has grown to become a trusted solution worldwide across a diverse range of business sectors, including banking, healthcare, finance, government, and retail. And as business needs have changed, MQ has evolved and developed to meet these needs—MQ truly is adaptable. Built initially to support on-premises deployments, MQ has expanded to enable businesses to take advantage of cloud advancements, allowing them the choice of deploying on premises, in clouds, or in hybrid environments.

For those who want to take security further by protecting data at rest, or who want to combine their file transfer solutions with their Messaging, MQ provides options that extend base capability to enable even more comprehensive solutions.

Why IBM MQ stands out

Make every message count

Losing messages in a business can be extremely costly as these can represent new orders and opportunities. Similarly, it is important for messages to arrive only one time. Imagine if a large payment were processed twice. Each message counts, and needs to be handled reliably to assure a successful business. Different messaging solutions offer different qualities of service, which define how many times messages are received. IBM MQ enables the handling of business critical messages by providing assured message delivery. It delivers messages once and only once. Not only does this ensure no message loss or duplication, it allows the business to keep the applications focused on business logic rather than adding complexity through de-duplication logic, or validating that there are no lost messages.

Work with your existing applications

New applications shouldn't mean massive re-work to your existing applications. Having benefits like encryption, transactionality, etc, shouldn't mean tweaking every application either. IBM MQ means that applications that were written today in the latest language can be used with those written by a developer who left the company with all the knowledge of that application many years ago.

MQ takes care of the connectivity between applications. It also handles encryption, transactionality, and other aspects, meaning that building applications is simpler and that changes happen in one place, rather than in every application.

Messaging, everywhere

IBM MQ is a truly versatile tool that connects applications, systems, and services spanning a variety of platforms, languages and environments. MQ's flexibility enables you to work where you choose, whether on the mainframe, on premises, or in the cloud. This gives you choice, and the ability to adapt and react fast to ever-changing markets, connecting all your applications across environments. And with developer editions, Docker images, and AWS Quickstart and more, developers can get going quickly where they feel most comfortable. Additionally, their applications can be written and executed without knowledge about the environment where they are running or any dependency on where the connected applications are running either.

Protect against the unexpected

Applications across your enterprise may have different levels of resilience. To avoid being held back or impacted by applications with limited resilience, application to application communication should be decoupled using asynchronous messaging. In addition, in a hybrid cloud world you need a communication mechanism that overcomes network issues, to assure your business is not disrupted. Whilst a synchronous approach such as HTTP can be used for some tasks, these are unsuitable for business critical messages due to the risk of message loss when systems are interrupted especially when communicating over the public internet. IBM MQ has a proven record at providing this asynchronous reliable once and once only message delivery between applications located across the globe as well as for high volume and high-speed connectivity in the data center.

Secure data movement

Security breaches cost businesses millions in lost revenue and regulatory fines, and damage reputation and customer trustcustomer trust.

With sensitive and valuable data running through your business, you cannot afford vulnerabilities. And with industry standards and regulations, you must be sure that your systems are robust as well as secure and protected.

IBM MQ protects the data that is flowing through your business through identification and authentication. You can choose between securing data in movement, data at rest or fully end-to-end secure data protection. Encryption at rest is defined by policy and protects the message contents, offering more reassurance than alternatives that may only work by encrypting the disk itself.

Integrated file transfer

Whilst many businesses rely on FTP or on homegrown solutions to transport file data around their business, IBM MQ offers a reliable and secure way of doing this in its IBM MQ Advanced offering (also on z/OS). MQ sends and receives the contents of files as messages over the MQ network. The file can be delivered to an application as a message, or a group of messages by splitting the file up. Alternatively, you can take a message, or a group of messages and use them to create and deposit a file. Both of these options are fundamental in not only moving files – but actually making use of the data in the file in a timely and dynamic way.

Consume MQ your way

MQ is available in several forms, reflecting different business needs and customer preferences. MQ is available in the following forms:

- **IBM MQ on IBM Cloud:** MQ provided as a managed service on the IBM Public Cloud
- **IBM MQ Advanced:** MQ software with extra encryption, file transfer capability, and a telemetry option, which enables access to real time data from sensors and mobile.
- **IBM MQ:** MQ software. Does not include encryption of data at rest, file transfer, or telemetry.
- **IBM MQ Appliance:** Many of the MQ Advanced software features in a top specification appliance.
- **IBM MQ for z/OS Value Unit Edition:** MQ on the mainframe, with end-to-end encryption and file transfer capabilities.
- **IBM MQ on z/OS:** MQ on the mainframe. Includes in flight security, but not at rest encryption or file transfer capabilities.

There are also a variety of ways in which to run MQ in the cloud, including on Openstack, on IBM Cloud Private, in a Docker container, and on Amazon Web Services or Microsoft Azure.

Licensing is simplified with choices of MQ or MQ Advanced for distributed software environments with capacity purchased as perpetual PVU entitlement, or monthly PVU or VPC entitlement. For z/OS there is the option of MQ as a Monthly License Charge, or as a perpetual PVU entitlement available as MQ for z/OS Value Unit Edition or MQ Advanced for z/OS Value Unit Edition. The MQ Appliance is available as either a fully entitled Model A, or a limited entitlement Model B, with the option to trade- from the B model to the A model if needs change.

Licensing for MQ Advanced or MQ Appliance offers unlimited deployment of MQ MFT Agents to enable a widely deployed Managed File Transfer solution.

For those exploring a hybrid solution, a VPC monthly hybrid license is available that provides access to MQ Advanced on premise and IBM MQ on IBM Cloud with one flexible license.

Consume MQ at your speed

IBM MQ has two delivery approaches, to give you more choice about when to accept new fixes and functions, allowing you to move forward at your speed. This agile approach enables you to be more flexible in your MQ adoption. MQ's delivery and support model makes it easier for you to use the latest capabilities without having to wait for the next major release.

You can choose one or both of the following:

- **Continuous delivery (CD):** Fixes and new functional enhancements as a set of modification-level updates. This enables you to obtain rapid access to functional enhancements.
- **Long term support (LT):** A set of fix packs to be applied to the delivered MQ version 9.1 function that deliver fixes, but no new function. Contains function from previous CD cycle.

If you need new function in some parts of your business but do not want to adopt CD throughout, it is possible to run CD in some parts of your business and LT in others.

You can find more information here:

<http://ibm.biz/CDvsLTfaq>

What's new in IBM MQ version 9.1?

The themes for IBM MQ V9.1 are:

- **Managing MQ in a cloud native way:** messaging resources are part of a wider collection of capabilities that provide business value. These are orchestrated together using DevOps to provide an agile development environment. The new REST APIs and Web-based administration within IBM MQ 9.1 accelerates the administration and embedding of IBM MQ within DevOps technologies.
- **Building a hybrid cloud messaging platform:** organizations are embracing the cloud, be this public or private clouds. Your messaging platform needs to facilitate this journey to the cloud. IBM MQ 9.1 provides comprehensive support for cloud platforms such as IBM Cloud Public, IBM Cloud Private, OpenShift, AWS and Azure. This allows your organization the flexibility to choose the most suitable cloud provider, and have IBM MQ extend communication into these environments.
- **Simplified resilience:** assuring your messaging platform is resilient is critical to protecting your business from disruption. A Replicated Data Queue Manager (RDQM) is a new feature of IBM MQ Advanced 9.1, which provides a simplified High Availability solution of a resilient queue manager without the need for highly available network storage.
- **Enhanced Connectivity:** as your business grows, so does the variety of system types, and therefore the connectivity requirements. IBM MQ provides a wide range of connectivity for developers. This has been improved in IBM MQ V9.1 to include REST APIs for message exchange. IBM MQ Advanced enhances the connectivity options further by including native support for integrating with Blockchain and Salesforce.

Conclusion

In a hyper-connected world, you can help enable a more complete integration between the simplest pair of applications or between highly complex business environments with IBM MQ. Enable your applications, your business, and your partners to exchange data in a faster, simpler, more reliable and security-rich manner, and provide connectivity from mainframe to mobile to sensors —across multiple platforms, public and private clouds and with multiple deployment options — for a more agile and responsive enterprise.

Upgrade to IBM MQ V9.1 to benefit from additional and improved functions, enhanced usability and further enhancements to the security-rich messaging infrastructure. In addition, benefit from a more agile deployment approach by implementing continuous delivery in part or all of your environment. Deploy with improved usability through new, simple but powerful tooling, and help enable optimal exploitation of the z/ OS platform with higher connectivity and the use of the workload from other platforms — all with IBM MQ V9.1.

With this new version you can significantly reduce administration effort with a cloud-native administration experience and with simplified infrastructure for a resilient solution. Moreover, with the combination of enhanced connectivity and cloud native support, you can target hybrid cloud deployments, while reducing the total cost of ownership when you deploy IBM MQ V9.1 as your messaging platform.

Why IBM?

IBM is a leading provider of messaging-oriented middleware software. With messaging middleware, IBM specialists have helped business leaders at organizations in various countries, sectors and of different sizes achieve value. IBM specialists have provided messaging solutions for 25 years. Globally, IBM messaging solutions have been deployed at more than 12000 organizations.

IBM has active communities and responsive support channels, so you can keep up with the latest information and get the help that you need.

For more information

To learn more about the IBM MQ, please contact your IBM representative or IBM Business Partner, or visit the following website: www.ibm.com/products/mq

Try IBM MQ for Free

For Getting Started information and tutorials, explore here: www.developer.ibm.com/messaging/learn-mq/



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OAM = operations, administration and management;
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