IBM MQ Appliance

A secure and reliable messaging solution for fast and cost-effective integration.

IBM

Highlights

- **Simple Set-Up:** IBM MQ firmware pre-installed on dedicated, secured hardware so teams can get started rapidly.
- **Maximize Performance:** Handle even the most demanding high-volume workloads with greater processor power, faster storage, and increased networking capacity.
- **Business Resiliency:** Easily create a highly available, resilient architecture to prevent data loss in the event of outages.
- **Reduced Costs:** Save on hardware and maintenance costs by simplifying your estate and eliminating time spent installing, patching, and maintaining complex, multi-stack environments.
- **Data Insights:** Harness mission-critical data as it flows around the enterprise with streaming queues to seamlessly power Analytics and AI.
- **Protect Against Threats:** Encrypt highly sensitive and valuable business data at all stages of its journey without writing complex code or modifying applications.

The great balancing act

Balancing growth and costs is an ever-present challenge, but the last few years have highlighted the additional need for reliability and stability. As businesses have fought to remain vibrant – in many cases through re-invention – it is more obvious than ever that a firm foundation is needed that not only enables you to innovate, but that keeps you steady whilst you do so. The recent climate has presented additional financial constraints, and the 'Great Resignation' threatens the loss of key skills. As a business leader, how do you address these challenges without compromising on your delivery, and what solutions can help you to not only survive, but to excel?

IBM MQ: the foundation

A business needs a robust messaging solution to ensure that data is where it is required, and for many, messaging is considered their essential foundation. IBM MQ has almost 30 years of expertise in delivering reliable and secure messaging that has evolved to address modern business and customer needs. The result is a flexible solution that can be used in a variety of form factors including distributed software, mainframe, containers, cloud, and of course, appliance. This enables you to build a solution that fits you, using any combination of form factors that meets your needs.

IBM MQ Appliance: the solution

The IBM MQ Appliance tightly integrates IBM MQ messaging firmware with specially selected hardware.

The result is a complete hardware/software solution in a single purchase that is designed to work as a whole. The IBM MQ Appliance is preconfigured for simplicity – to enable you to thrive even without deep skills – and performance – to help you to get the most out of your investment.

The IBM MQ Appliance is often used standalone to consolidate existing messaging software deployments for efficiency, and can also be used as a messaging hub, a gateway to the mainframe, or as part of a hybrid approach with containers or cloud. We also see businesses using the appliance to manage additional loads when merging with other companies.

The IBM MQ Appliance includes the following features and benefits:

Simple set-up

IBM MQ is highly configurable, however skills and time can be in short supply, and with the constant pressure to excel it can be difficult to justify investing the time in developing deep expertise, especially if you only require a selection of features.

To help companies facing skill shortages or time constraints, the IBM MQ Appliance offers a form of IBM MQ that is pre-configured and that has simple maintenance. This enables your team to focus on other tasks that matter to you and your customers without sacrificing access to a market leading messaging solution. Fast transition and set-up enables you to start getting value as soon as you connect to the appliance.

Maximize performance

For you to offer your best to your business and to your customers, you need a solution that performs. IBM MQ has long been known for its reliability, with other solutions unable to rival its once and once only delivery. The IBM MQ Appliance has IBM MQ technology at its core and is tuned by the experts who work with IBM MQ code every day. Close integration of the IBM MQ firmware with carefully selected hardware means that you can get the most out of your messaging, without spending the time tuning it yourself. The latest model offers greater processor power, to support increased workloads even when messages are encrypted; faster storage, for messages that need to be persisted; and increased networking capacity to speed both the throughput of messages from applications and for replicating messages in a high availability setup.

Keep up to date with the latest IBM MQ Appliance performance reports from our website.

Business resiliency

Your ability to be available even during interruptions has a direct impact on your business and your relationship with your customers. A disruption can halt your production or impact sales. Loss of data can incur fines and require investing weekends and evenings to recover.

IBM MQ solutions provide High Availability and Disaster Recovery so that you can continue even when disruptions occur. Instead of using an appliance as its own backup, we use paired appliances. Closely-situated paired IBM MQ Appliances can automatically fail over to provide continuity during outages or rolling maintenance, whilst IBM MQ Appliances paired over distance add resilience should an event occur that impacts an entire datacenter. Both IBM MQ Appliances in a pair are active, but running with spare capacity to ensure that they can take over from their partner when needed. This ensures your data is protected from loss during downtime, helps shelter your bottom-line from costly, debilitating outages and allows you to provide seamless experiences that your customers can depend on without hesitation.

Reduced costs

With each new project comes the need for new resources, leading to growth within your datacenter, which can be even greater when projects are considered in isolation. This is costly and becomes difficult to manage, particularly if you are running multiple software versions.

 With the IBM MQ Appliance you can combine multiple distributed software workloads onto fewer machines, saving space, energy and hosting costs. This is an opportunity to simplify and standardize your approach by using the same firmware version across your estate. This standardization combined with the reduction in the number of machines lowers the maintenance burden, further cutting costs.

Learn more in this paper, which contrasts using IBM MQ software on x86 vs on MQ Appliances: Reduce operational costs with the IBM MQ Appliance.

Data insights

Gain more value from existing business data flowing through your enterprise by making messages available to Kafka, AI, and analytics applications with zero impact to your existing applications, and without needing to make any architectural changes.

This is achieved using streaming queues and the main use cases are:

(1) AI/machine learning: Data is the fuel that powers artificial intelligence (AI). Use MQ streaming queues to provide data to AI systems to gain insights, predict future outcomes, and transform business decision-making.

(2) Kafka producer: Provide a copy of messages to a Kafka streaming platform for real-time processing and analysis.

(3) Auditing and replay: Send streaming queue messages to a data lake where they are ready to be replayed if business IT systems are destroyed by disaster or otherwise rendered inoperable.

(4) Real-world test data: Engineering teams can reduce risk. They can use a copy of your real-world data to accurately simulate production workloads and predict how planned architecture changes such as adding a new application would impact the existing system.

Protect against threats

With the average cost of a data breach at $4.24M (Ponemon, 2021), it is no wonder that security is a pervasive theme. Many solutions boast security, but can be vague about what that means in an attempt to appear directly comparable to other vendors.

The IBM MQ Appliance includes the following...

- Transport Layer Security (TLS): your data is protected on the move, guarding against external threats, with authentication and authorization ensuring that access is granted to only those with permissions.

- Disk-level encryption: protection of data at rest on the disk through flexible encryption of individual queue managers allowing you to comply with corporate and industry security regulations.

- Message-level encryption: encryption of the messages to protect against individuals who gain disk access. This includes protecting sensitive personal data from your own IBM MQ administrators with only the end applications having access to the data.

Read: Securing Your Business with the IBM MQ Appliance for more information.

Typical deployments and uses for the IBM MQ Appliance

Reduce costs and simplify your estate with a messaging hub.

Benefits:
- Cost reduction
- Standardization
- Operational efficiency
- Ease of future migrations

Solution:

You move queue managers into a hub to which multiple different applications can connect as IBM MQ Clients. This enables continued support for enterprise SLAs for availability. As these queue managers are running on fewer appliances that are optimized for the software, you use less machines in your data center, and have fewer to migrate in the future. With the firmware updates that we make available, maintenance is simple, and your environment standardized.

You can use this hub as a gateway to other parts of your IBM MQ estate, should you continue to run IBM MQ on other deployment models, such as z/OS.

IBM **Cloud**

Collaborate with partners, using IBM MQ messaging.

Benefits:

- Saved time in setup of partner interface

- Control of resources available to a partner

- No requirement for partner to have IBM MQ expertise

Solution:

You deploy an IBM MQ Appliance, which acts as the front-end within your enterprise to which the partner IBM MQ channel connects. You can focus on the connectivity and access from that appliance, helping to lower your risk, and providing your partner with the reliable connectivity they need. As the IBM MQ Appliance is pre-optimized, neither you nor your partner needs to spend time optimizing servers for IBM MQ, and with the simplicity of the IBM MQ Appliance, your partner does not need to be an expert in IBM MQ to work with you.

You can be confident that the IBM MQ connectivity and configuration of the IBM MQ Appliance located within the business partner, and thus outside your enterprise domain, is correct, up-to-date, and meets your business standards. The IBM MQ Appliance is easy to physically deploy and can be pre-configured prior to delivery, so all the business partner needs to do is plug it in and get connected. You can provide high availability at the partner location by using paired appliances, without requiring external dependencies that the partner might struggle to provide and support.

Deploy a messaging outpost.

Benefits:
- Local high availability
- Resilient connectivity
- Little need for local IBM MQ Expertise

Solution:

You deploy IBM MQ Appliances to a remote part of your organization, for example, a branch, factory, or a warehouse. Your local applications can connect reliably and securely to head office and locally, due to the underlying IBM MQ software. The simplicity of the IBM MQ Appliance means that it does not matter that this type of remote location typically has limited infrastructure skills and even fewer local IBM MQ skills. In the event of a hardware failure, the paired appliances can fail over between themselves.

IBM MQ Appliance: Choose the capacity that you need

Businesses come in different shapes and sizes. With the IBM MQ Appliance you have the ability to make a single purchase with a sub capacity license then as your demands grow simply request an upgrade to make full use of the hardware. This further puts you in control of your costs without worrying about physical upgrades.

Either version of the appliance can be deployed anywhere that you need IBM MQ queue manager functionality, whether in an enterprise data center, a branch office, a factory, or elsewhere. Both versions of the IBM MQ Appliance come with IBM MQ installed and licensed for use and include two bonus IBM MQ Advanced capabilities, message-level encryption and file transfer, as well as entitlement to use the Aspera fasp.io gateway which can optimize network traffic where appliances are physically situated over long distances.

Why IBM?

IBM offers services and guidance that help build a vision and create a roadmap for messaging-oriented technologies. We have already spent almost 30 years adapting and enhancing the market-leading message-queue-based messaging solution, IBM MQ.

This powerful and reliable offering is available in a range of deployment types, to help customers where they need us most. Our IBM MQ solutions are the backbone of businesses globally, across all industries and continue to help them thrive.
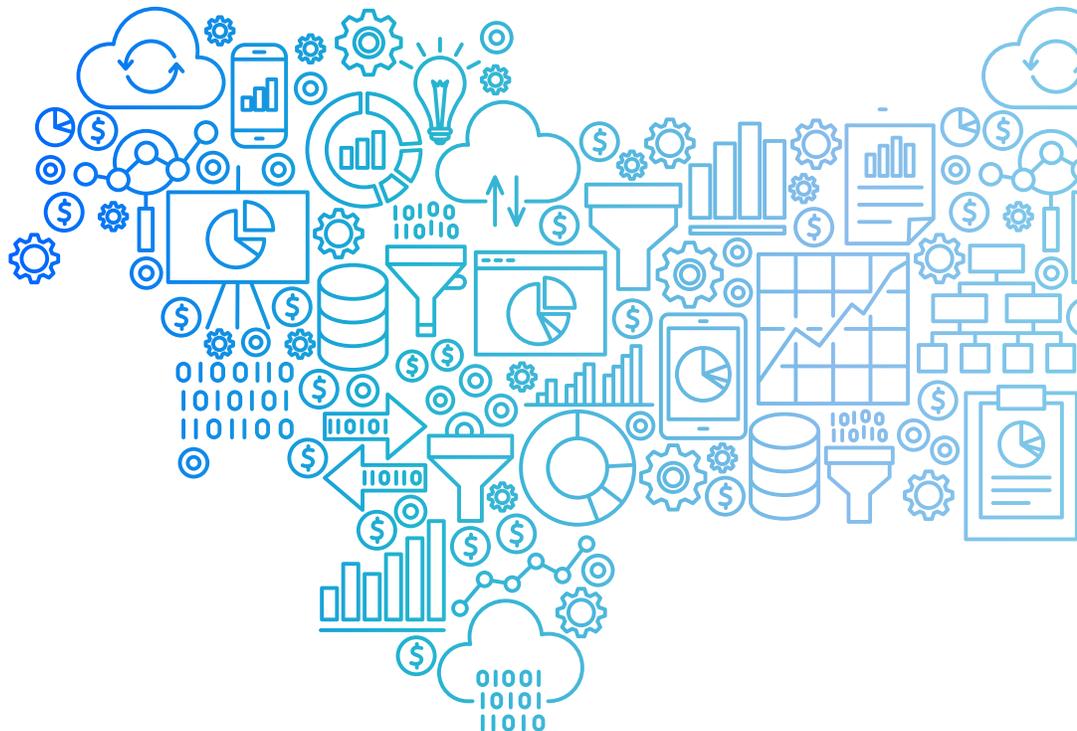
For more information

To learn more about the IBM MQ Appliance, please contact your IBM sales representative or IBM Business Partner, or visit the following website:

www.ibm.com/products/mq/appliance

Additionally, IBM Global Financing can help you acquire the software capabilities that your business needs in the most cost-effective and strategic way possible. For credit-qualified clients we can customize a financing solution to suit your business and development requirements, enable effective cash management, and improve your total cost of ownership. Fund your critical IT investment and propel your business forward with IBM Global Financing.

For more information, visit:
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IBM Cloud