

Modernizing your IBM MQ systems for tomorrow's challenges

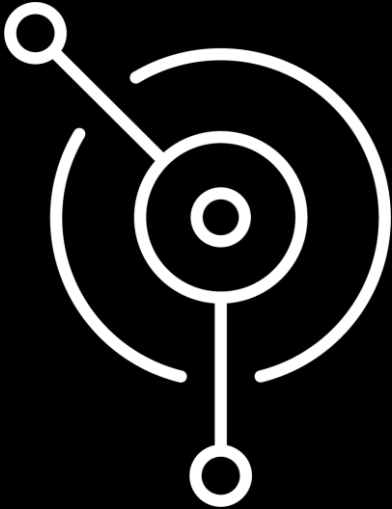
Callum Jackson
Solution Architect, IBM Messaging



IBM Cloud



Run IBM MQ in any location or cloud, exactly as you need it



On-premise, software and the MQ Appliance



Linux AIX IBM Z
Windows Solaris
IBMi
HPE NonStop zLinux
Appliance

A white rounded rectangle containing a list of operating systems and platforms. Above the rectangle is an image of an IBM Z server rack, and below it is an image of an IBM MQ Appliance server.

Run MQ yourself in public or private clouds

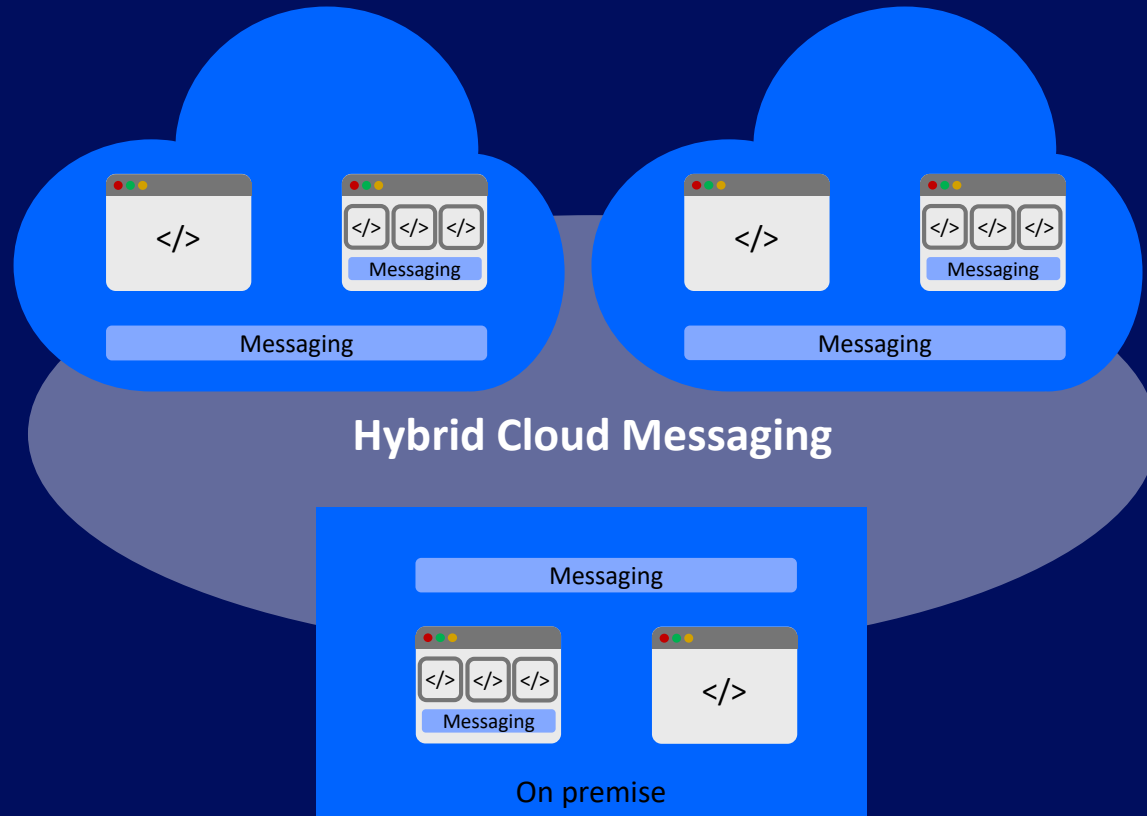
A collection of white cloud-shaped icons on a blue background. The icons contain the following text: 'AWS', 'Azure', 'IBM Cloud' (with the IBM Cloud logo), 'Red Hat OpenShift', and 'Kubernetes'.

Let IBM host MQ for you with its managed SaaS MQ service in public clouds, IBM Cloud and AWS

A white cloud-shaped icon containing the IBM Cloud logo and the text 'IBM Cloud'. Below it is another white cloud-shaped icon containing the text 'powered by aws' with the Amazon logo.

Business Critical Communication

Build a multi-cloud communication network



- ✓ Access any data from anywhere
- ✓ Facilitate application portability
- ✓ Deploy anywhere: on-premise / public / private clouds
- ✓ Embrace container native technology
- ✓ GitOps: enable self-service and automate deployments

IBM MQ Transformation

Characteristics

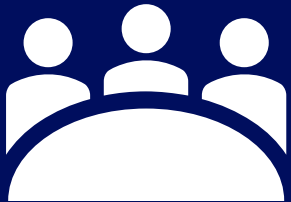
Developer Agility

Self Service

- Non-functional based t-shirt sizes
- Instant provisioning

DevOps Integration

Isolated environment



Adopt Multi-Cloud

Automate & configure deployments across clouds

Embracing **Containers** - changing runtime platforms

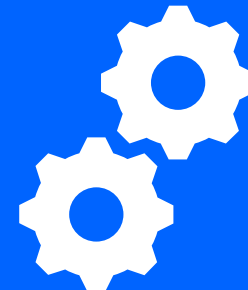


Operational Agility

Evergreening – assure supported and compliant environment

Consolidate to a hub, to simplify operations.

Self service to allow interaction with MQ team only by exception



Organic Growth

Improved **high availability** of solution

Improved **security**

Improved **scalability** of messaging and/or application



IBM Messaging Transformation

Form Factors



Software: Traditional software deployment on bare metal or virtualized operating systems. Provide **automated deployments, simplified HA/DR/Scalability, integration into self service portals and DevOps.**



MQ Appliance: Consolidate your IBM MQ estate onto an **optimized hardware appliance**. Simplify your operational activities by benefiting from **predictable performance** and out of the box **high availability and disaster recovery** topologies.

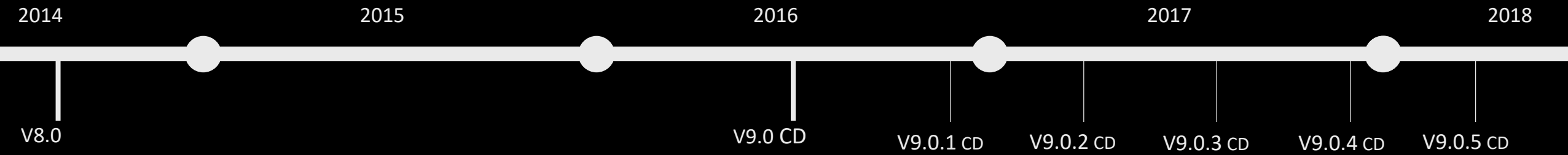


Containers: Embrace container technology to accelerate the **developer and operational agility** of your organization. Deploy across on-premise and public cloud providers, utilizing the platform for **self-service, DevOps, Availability and Scalability.**



Software as a Service: Allow IBM to manage the deployment, availability and system monitoring of your IBM MQ estate with **IBM and AWS Clouds**. **Empower developer teams** to provision MQ within minutes, reducing dependencies across teams.

IBM MQ: Container Support



Docker Support

In 2015 MQ introduced how to run within a Docker Container. Support for running within a container was provided from V8.0.0.4

Developed in the open

Our **certified container** is developed in the open available on GitHub:

[github.com/
ibm-messaging/
mq-container](https://github.com/ibm-messaging/mq-container)

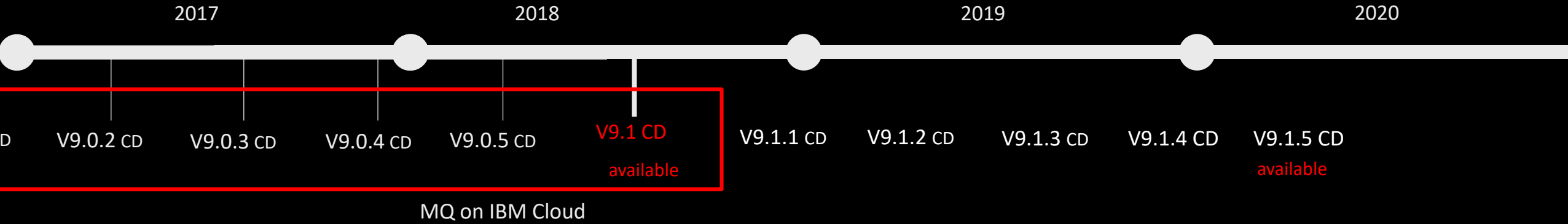
Support for Container Orchestration

IBM provided Public and Private cloud environments built on Kubernetes. IBM MQ provided support for these in 2017.

Helm Based Deployment

Helm Charts are provided to simplify the administration experience to deploy and update within a Kubernetes environment.

IBM MQ: Container Support



Pipeline Support

Clients can develop pipelines that build customized images, either by rebuilding or layering configuration.

OpenShift Support

In V9.1.2 IBM MQ runs as non-root. In V9.1.3 support for OpenShift was provided, with both Docker and Cri-o container technologies supported.

Enhanced OpenShift Support

In V9.1.5 IBM MQ Advanced certified container can run under OpenShift's *restricted* Security Context Constraints.

Cloud Pak for Integration

A certified IBM MQ Advanced container is provided with integration for single sign on, common logging and dashboards

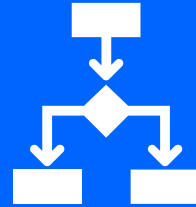
Modernizing MQ using Containers

A Holistic Approach



People & Process

Empower autonomous application teams to access the tools they want when they need them



Architecture

Embrace fine grained deployments, allowing teams to declare their own scalability and availability requirements

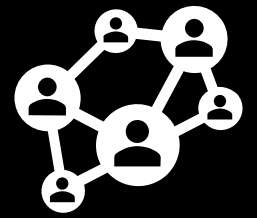


Technology

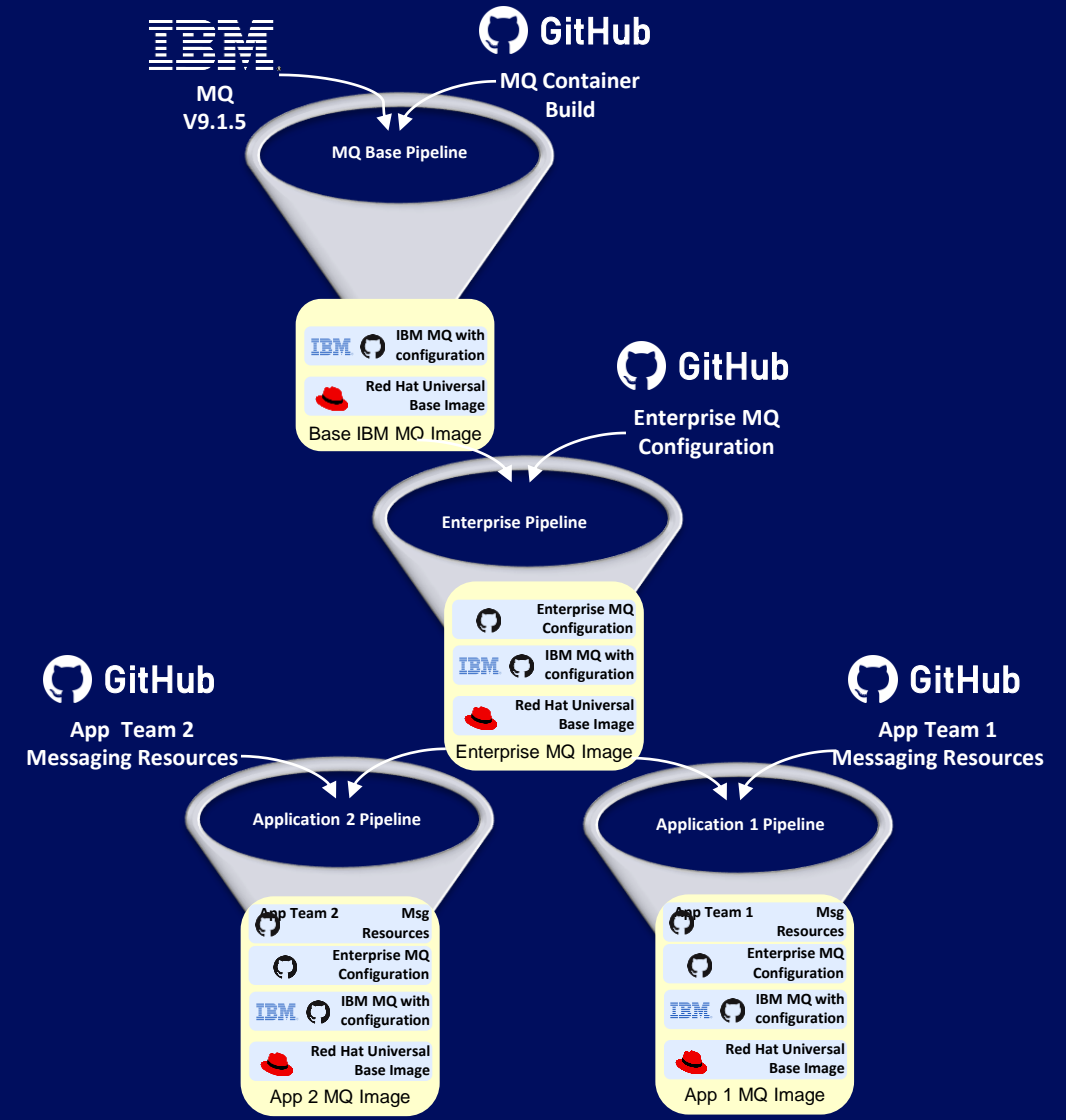
Build on Cloud Native Technology, allowing clients the flexibility to stage their modernization

People & Process

DevOps and CI/CD

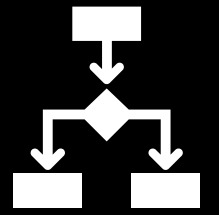


- **Automate:** the customization, build and deployment of IBM MQ using industry standard tooling.
- **Empower:** individual development teams to own their configuration, allowing them to react to change.
- **Evergreen:** assure new MQ releases can be deployed across the estate with minimal effort.



Architecture

Evolving to a fine-grained deployment



Replatform

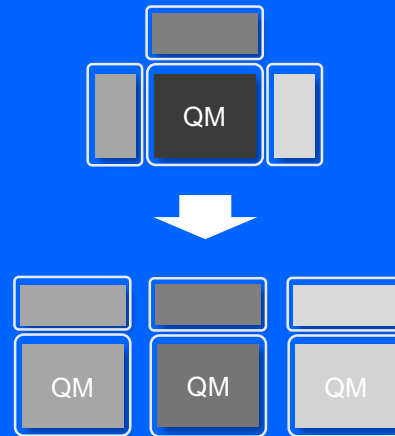
establishing the container orchestration platform, services and capabilities to succeed, and move to a runtime topology that is native to the platform



Containerize MQ queue managers, with applications connected as clients

Repackage

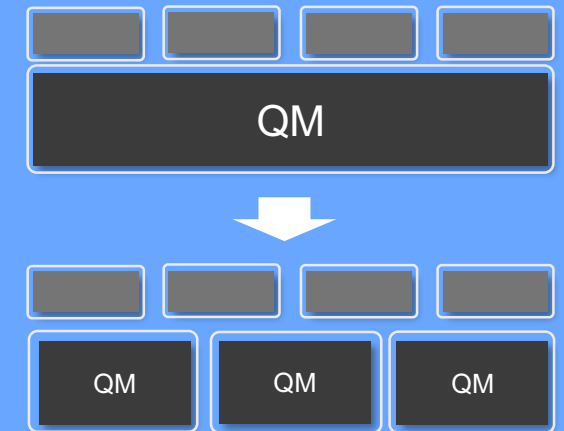
break down the existing artefacts so that they are bounded along line of business and development teams to improve the agility of the organization



Queue managers are dedicated to an application

Refactor

re-work the artefacts that are hard to maintain or prevent the organization from realising the full benefits of their modernization journey

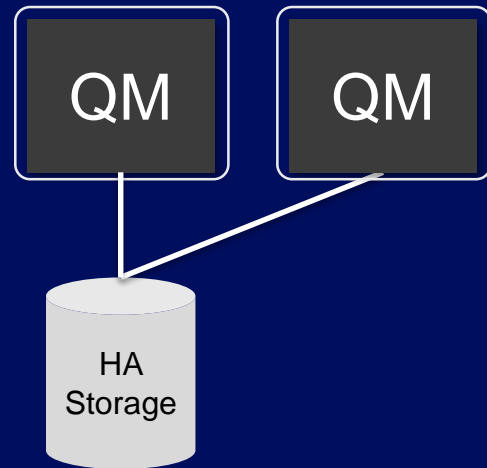


Deploy MQ patterns that provide horizontal scaling and continuous availability



Embrace Containers

Following the container principle of one concern per container, a Queue Manager runs in its own container.

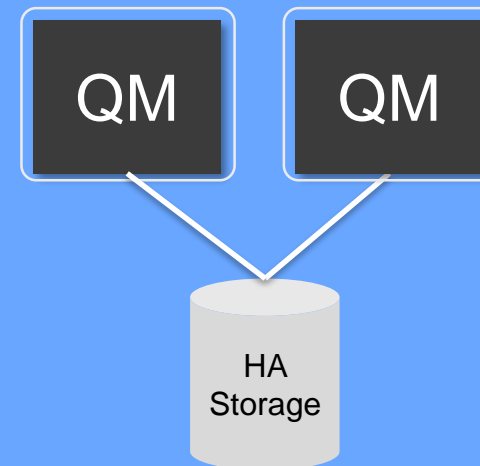


The Queue Manager state is stored **outside** of the container, within attached storage. This allows the container to be disposable.

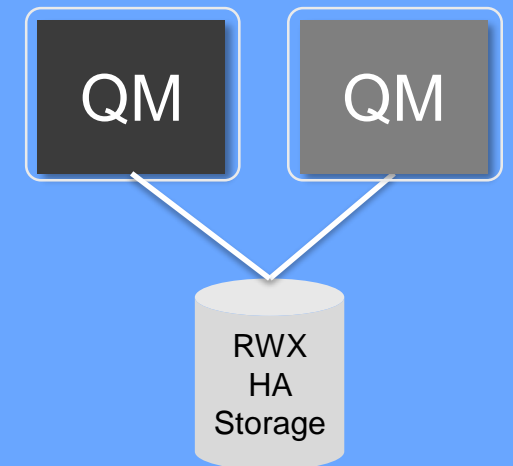
Flexible HA

Users can select the most appropriate High Availability topology for their deployment:

Container Standard Single Resilient Queue Manager



Product Enhanced Multi-Instance Queue Manager



Messaging Modernization Workshop

A free, one day interactive problem-solving session at your site.

During the workshop, our messaging architect will discuss their experiences of working with you to develop agile, hybrid and multi-cloud messaging solutions.

The workshop is **customized based on your needs**, and represents an opportunity to interactive review of your digital transformation goals, objectives and challenges

Contact: AskMessaging@uk.ibm.com

