IBM MQ in the cloud

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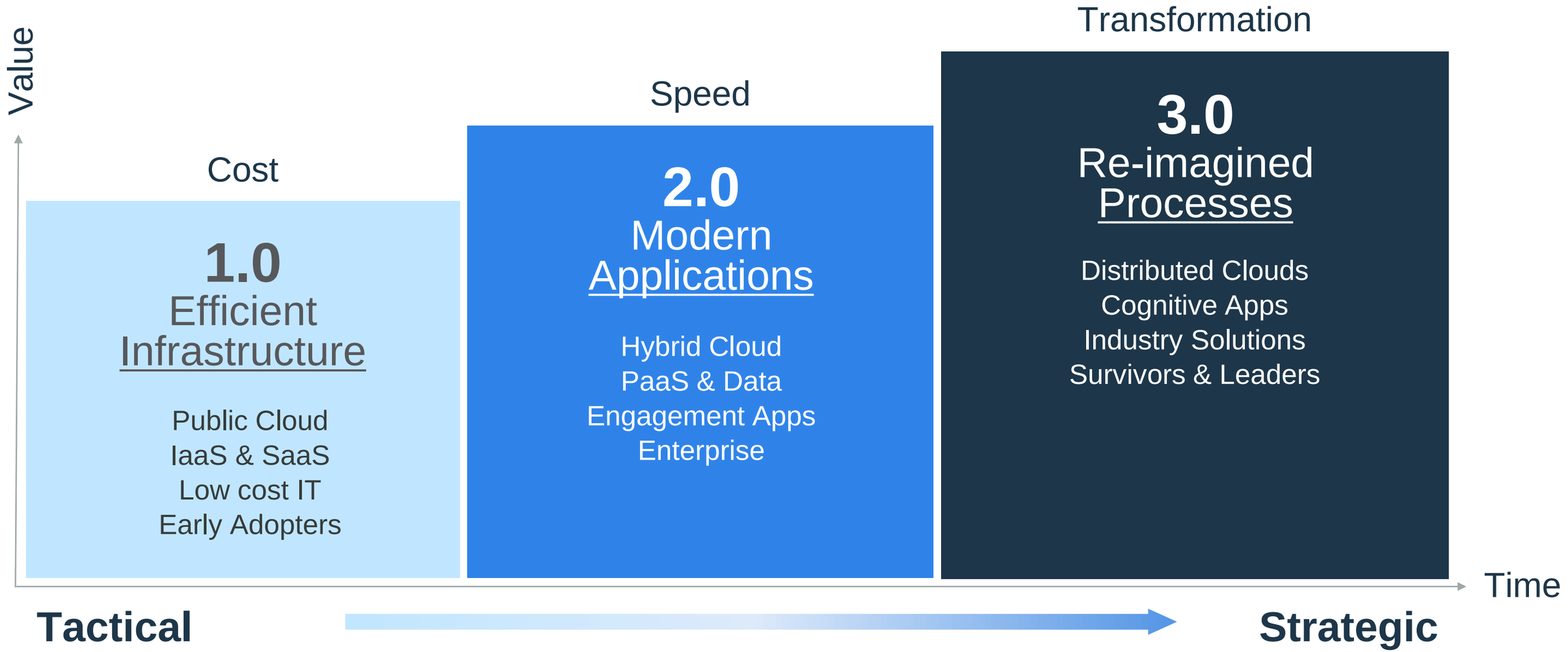
Cloud adoption has evolved beyond just cost cutting, to deliver solutions for enterprises to drive enterprise transformation



Types of cloud environments

Infrastructure as a Service (IaaS)	Containers as a Service (CaaS)	Platform as a Service (PaaS)	Functions as a Service (FaaS)	Software as a Service (SaaS)
• IBM Bluemix Infrastructure • Amazon Web Services • Microsoft Azure • OpenStack	• IBM Bluemix Container Service • Amazon Elastic Container Service • Microsoft Azure Container Service • IBM Cloud Private • Kubernetes • Docker Swarm • Apache Mesos	• IBM Bluemix Cloud Foundry Runtimes • Amazon Elastic Beanstalk • Microsoft Azure App Service • Cloud Foundry • OpenShift	• IBM Bluemix OpenWhisk • Amazon Lambda • Microsoft Azure Functions	• IBM Cloudant (NoSQL database) • Salesforce (CRM platform)

MQ queue managers

MQ client applications

Considerations for running MQ in the cloud

- Persistent storage
- Security
- Scalability
  - Service discovery
  - Load balancing
- Error log management
- Metrics and monitoring
- Client applications

Re-think how you use MQ

Support is available

- MQ is supported in the cloud, just like it would be on your own hardware
  - Subject to the usual rules (e.g. don’t cache disk writes)
- MQ is supported in Docker containers
  - Running in Kubernetes, Docker Swarm, or Mesos, are just derivative cases of running in Docker.
  - We’ve recently added all MQ components to the supported list for MQ V9

Help is available

- Run MQ queue manager yourself on IaaS (e.g. virtual machine)
  - IBM MQ on AWS - Quick Start
  - MQ in OpenStack blog and samples
  - MQ in Docker
- Run MQ queue manager yourself on Kubernetes
  - MQ in the IBM Bluemix Container Service
  - MQ in IBM Cloud Private (on premise)
- Let IBM run a queue manager for you
  - See the session “IBM MQ as a hosted service” in Elective Group 6.

https://developer.ibm.com/messaging/mq-on-cloud/

IBM MQ on AWS

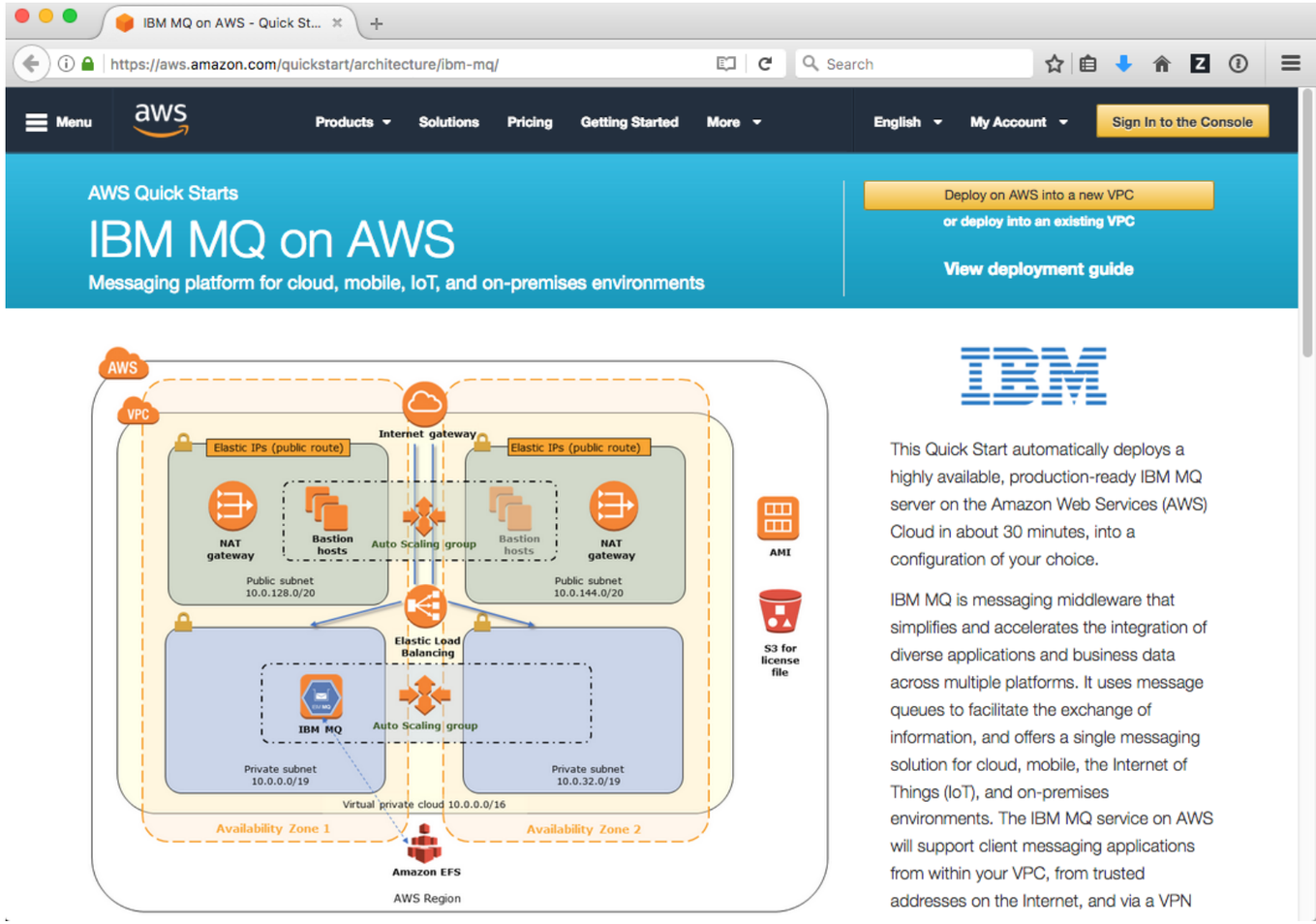
AWS Quick Start

AWS Quick Start – IBM MQ on AWS

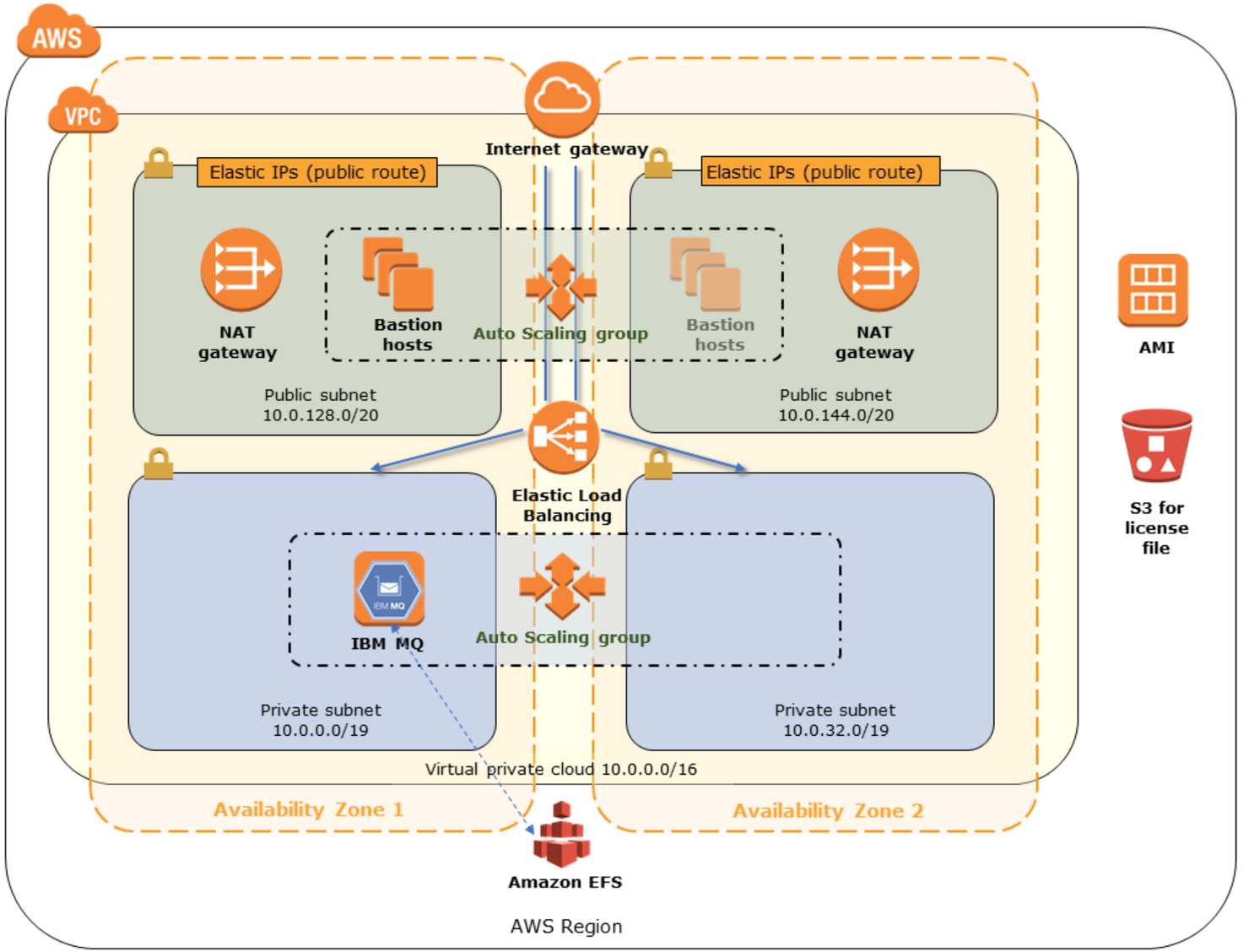
AWS Quick Starts help you to deploy popular solutions on the AWS cloud. The IBM MQ Quick Start was designed by IBM in conjunction with AWS solutions architects, and makes use of AWS best. You can use it to create a test or production MQ environment, and start using it immediately.

The MQ Quick Start includes a comprehensive deployment guide and AWS CloudFormation templates that you can launch with a single click.

https://aws.amazon.com/quickstart/architecture/ibm-mq/



IBM MQ on AWS



IBM Cloud Private

Enterprise Grade. Open by design.

IBM Cloud Private

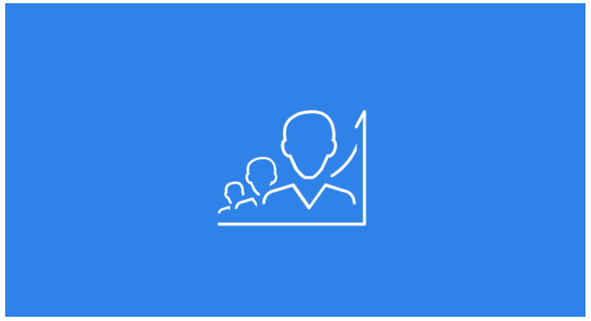
Kubernetes-based container platform

Cloud Foundry for prescribed application development and deployment

Integrated DevOps toolchain

Catalog of integration services

API economy to integrate data and services across all



Prescriptive guidance on where to run your critical workloads

Next generation versions of industry leading IBM Middleware and Analytics (WAS, MQ, DB2)

Core operational services, including monitoring, log mgmt and security

Integration with existing systems and operations management solutions

IBM Cloud Private is central to IBM’s Hybrid Cloud Strategy

Choice with consistency

Hybrid integration

DevOps productivity

Powerful, accessible data and analytics

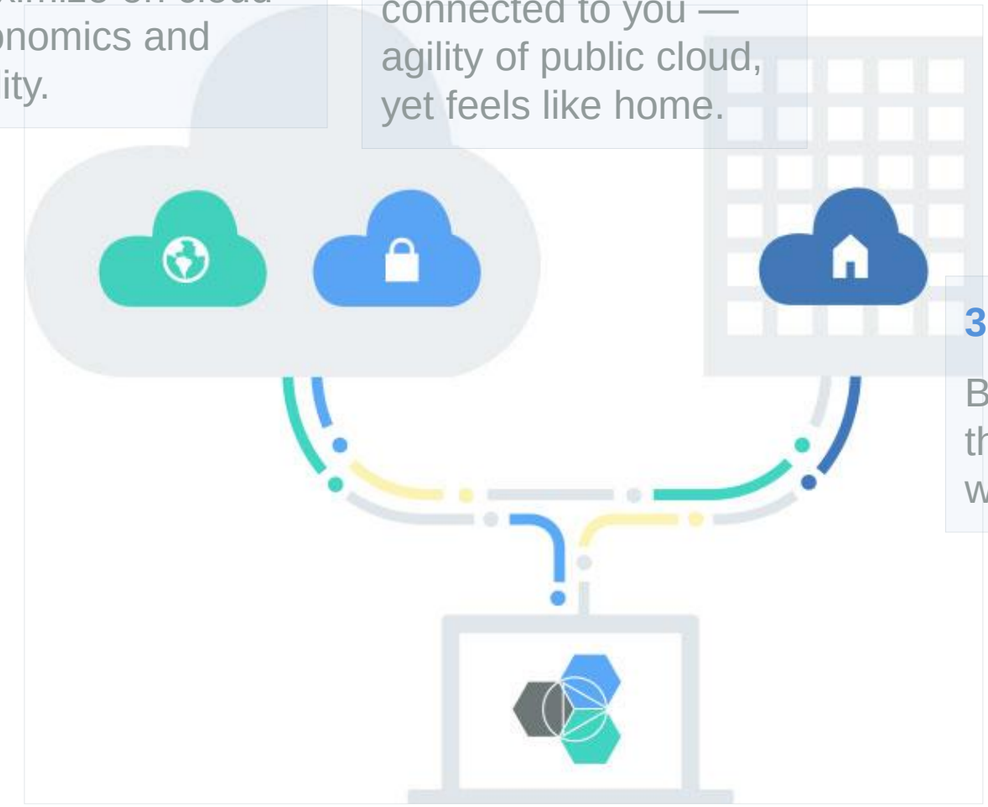
Cognitive solutions

1 | Public

Maximize on cloud economics and agility.

2 | Dedicated

Everything is dedicated and connected to you — agility of public cloud, yet feels like home.



3 | Private

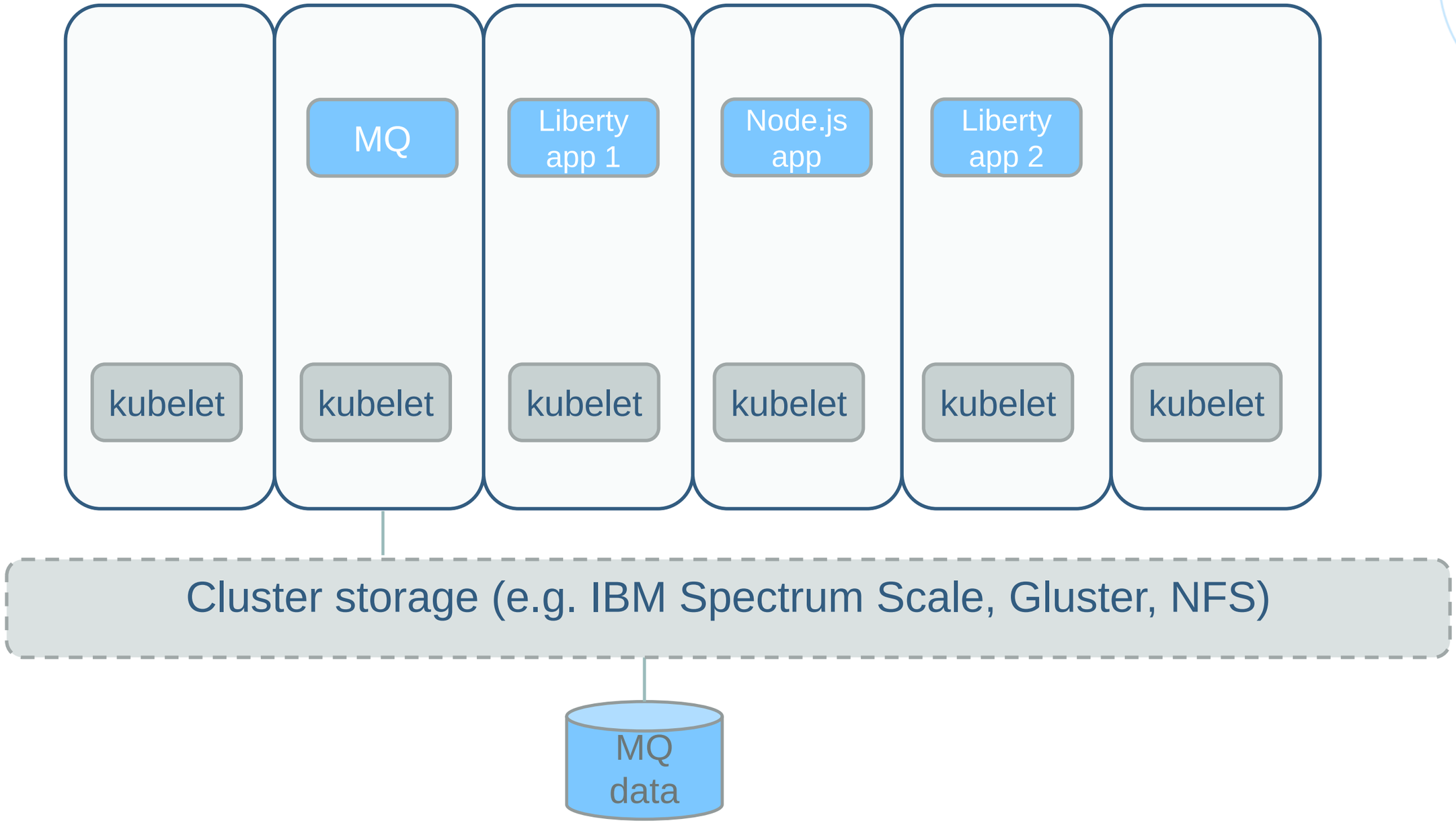
Behind the firewall for the most sensitive workloads.

Background - Kubernetes

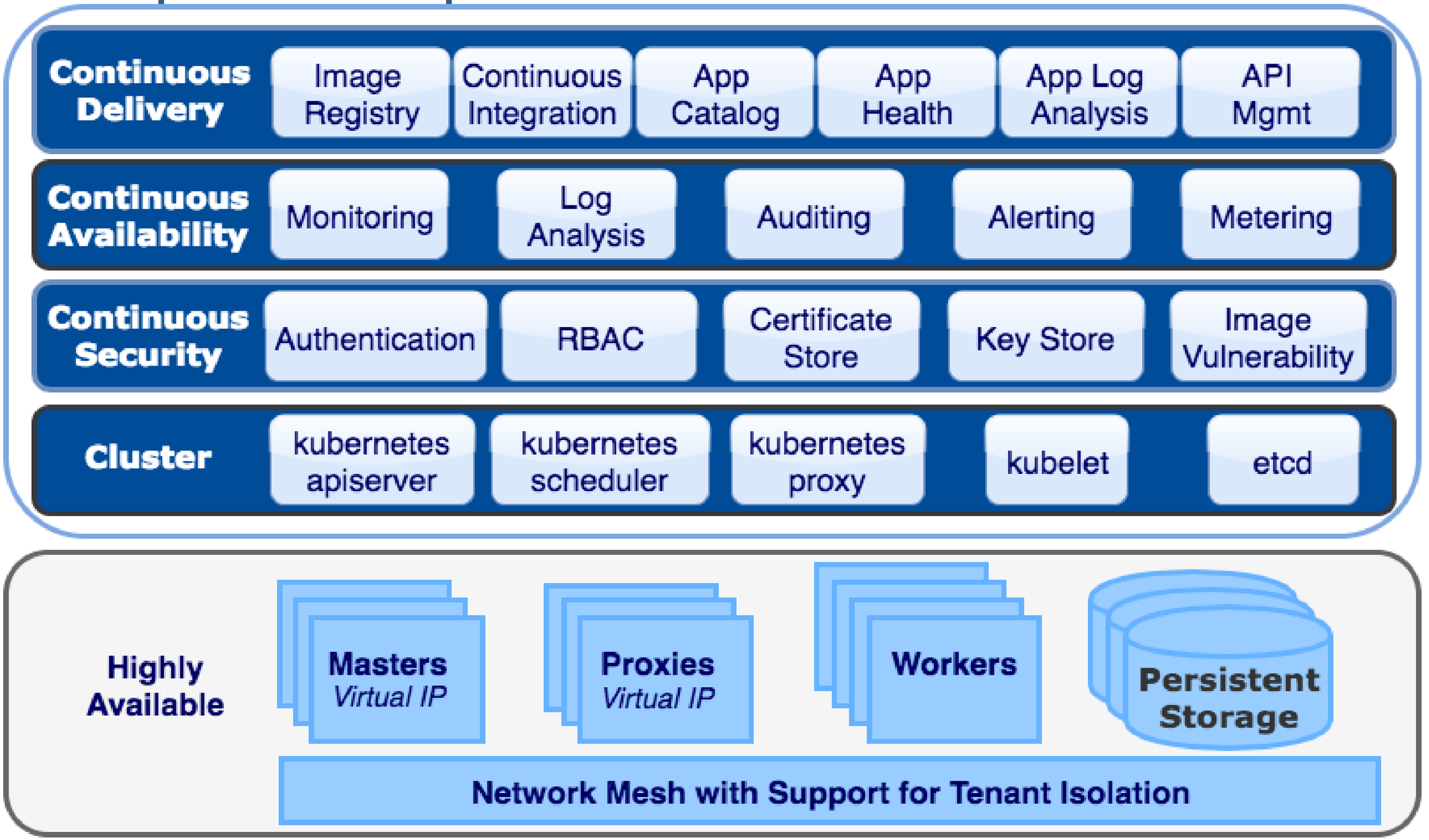
Kubernetes is an “open-source system for automating deployment, scaling, and management of containerized applications.”

Provides a set of cloud primitives at a higher level than an IaaS

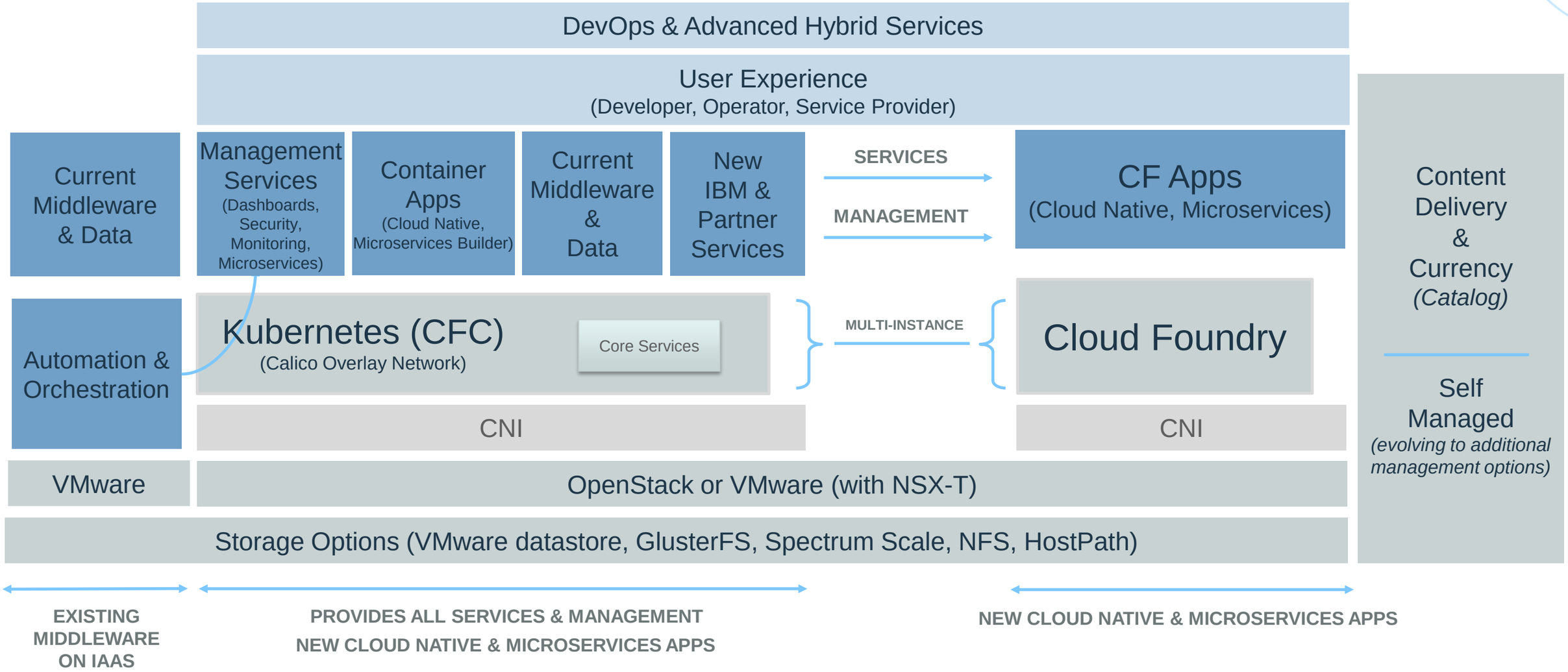
- Pod
- ReplicaSet
- PersistentVolume
- StatefulSet
- DaemonSet
- Service
- …


MQ
Liberty app 1
Node.js app
Liberty app 2
kubelet
kubelet
kubelet
kubelet
kubelet
kubelet
Cluster storage (e.g. IBM Spectrum Scale, Gluster, NFS)
MQ data

IBM Cloud private – Enterprise Kubernetes Architecture



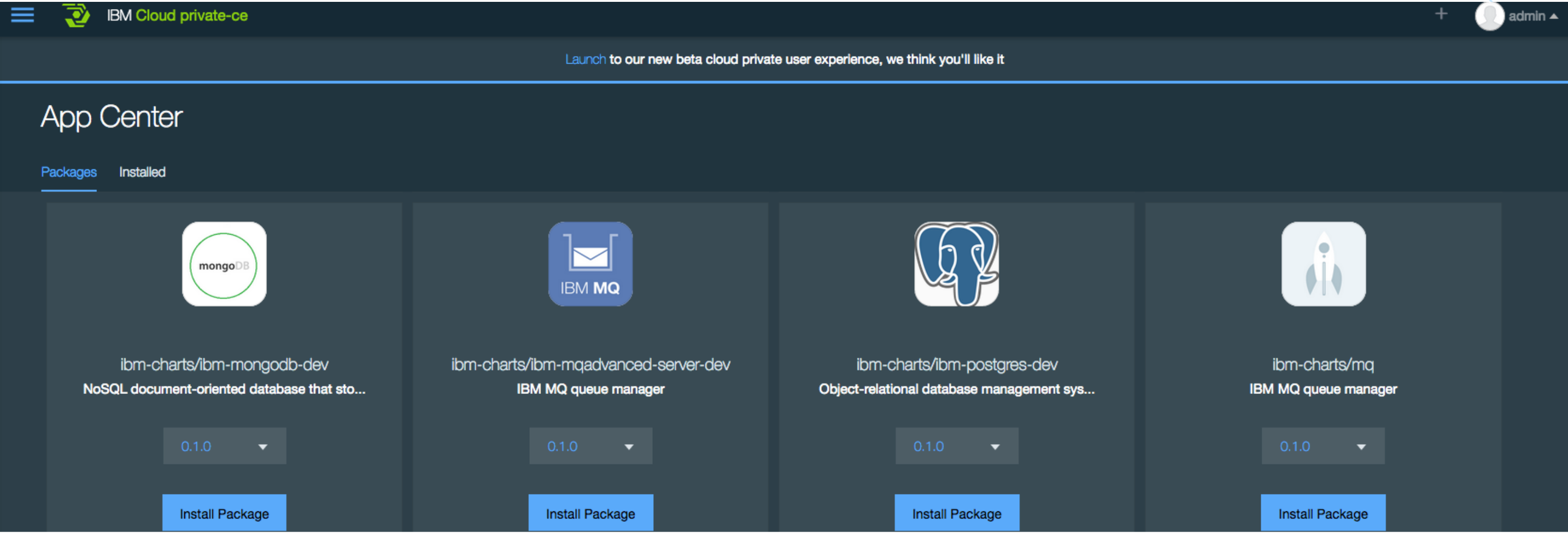
IBM Cloud Private – End to End Architecture



IBM Cloud Private V2.1 beta

- Kubernetes upgraded to V1.7.3
- Storage classes
- Federated clusters
- Pod security policies
- CloudFoundry support
- VMWare vSphere support
- New metering service powered by IBM Cloud Product Insights
- New Cloudant Local service

IBM Cloud Private – App Center



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