Maximo EAM to MAS

OpenShift Platform Options

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Red Hat OpenShift

IBM

A Modernized Software Product Requires a Modern Platform

Example: Maximo Application Suite on Red Hat OpenShift

Manage
Intelligent Asset Management

Monitor
Monitor and Detect Anomalies

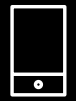
Health
360 View of Assets

Predict
Predictive Failures

Visual Inspection
AI-Powered Insights

Schedule
Schedule Work and Resources

Mobile
Technician Work Execution



Assist
Prescriptive Assistance

Control
ITIL Based Technology Service Management

IBM Cloud Pak for Data | IBM Watson Studio | IBM Watson ML

IBM Cloud Security and Compliance Center Workload Protection

Red Hat OpenShift

Infrastructure Independent
Common Operating Environment

IBM Cloud | aws | Azure | Google Cloud | Private | Edge | Systems

IBM

We must upgrade to MAS but have challenges:

We have databases and applications on-prem that must integrate with MAS

We don’t want to migrate everything to cloud

We have regulatory or latency requirements requiring data to stay on-prem

Not all data can go to the cloud. Regulatory or network latency requirements force application to stay on-prem

Need to deploy and be in production quickly

We don’t have months to spend on building and testing a new containers platform

No OpenShift Skills (or not enough)

Container skills are in high demand, tough to find (especially in small markets) and can be very expensive

Common Deployment Options

Deployment	Procure	Provision & Operate	Client Benefits
On Premises Customer Managed	Client purchases software from IBM, partner or ISV Client provides data center and infrastructure	Client provisions, manages, and operates full stack	• Maximum operational flexibility
SaaS ISV Managed	Client purchases software as a service including infrastructure, hosting, platform and software.	Client logs in and uses immediately	• Reduced time-to-value • No data center, hosting, infrastructure or maintenance • Allows clients to focus on business priorities
Hyperscalers Customer Managed Software with Optional Managed OpenShift	BYOL or Marketplace Software Purchase Infrastructure-as-a-service by cloud provider Optional platform-as-a-service provided by cloud provider	Provision IaaS and/or OpenShift on Hyperscalers' cloud Client manages and operates both software and infrastructure with option for managed OpenShift platform	• Simplifies procurement and deployment • Client can focus on application and not platform • OpenShift platform as a service does not require client labor or skills for management
Custom Managed Service	Client procures partial or full stack service from a managed service provider	MSP provisions, manages and operates Client's partial or full stack environment on prem, in a co-location facility, or in any cloud	• Option for full stack management • Allows clients to focus on business priorities • Can leverage IBM Cloud Satellite and ROKS for speed and lower costs
On Premises IBM Cloud Satellite w/ Managed OpenShift Service IBM Exclusive	Client purchases software from IBM, partner or ISV Client provides infrastructure or partner provided ***Platform services including IBM Cloud Satellite and managed Red Hat OpenShift via subscription***	Client provisions and manages infrastructure & application, **IBM manages platform including OpenShift & SCC Workload Protection with optional installation services**	• IBM manages the OpenShift platform across on prem and hyperscalers in a hybrid or multi cloud topology • Lower cost than DIY • Cloud benefits in client data center • Consistent OpenShift operational experience across hybrid and multi cloud • Easily identify vulnerabilities, check compliance, block runtime threats and respond to incidents faster

RED HAT® OPENSHIFT on IBM Cloud

> “Because we use **Red Hat OpenShift on IBM Cloud**, we spend **less time managing infrastructure**, and we have **more time to listen to business needs** and **develop new applications to accommodate them**.”
>
> **Herwig Bogaert**
> Senior System Engineer, meemoo

OPENSHIFT
version(n-2)

First to market for 4 years and counting!

Fully automated. As-a-service. Extend anywhere.

Key Capabilities

OpenShift experience built on Kubernetes
Use the OpenShift tools and APIs you already know for a single, consistent experience, even when working across hybrid environments or different cloud providers.

Heightened cluster and app security
IBM provides security features to protect your cluster infrastructure, isolate your compute resources, encrypt data, and ensure security compliance in your container deployments. Further, OpenShift sets up strict Security Context Constraints for greater pod security by default.

Worldwide, continuous availability
Deploy and scale workloads across the globe in all IBM Cloud multizone regions. OpenShift clusters include a managed master that is automatically spread across zones within the region for high availability.

Integrated OpenShift catalog
Quickly set up a CI/CD with Jenkins or deploy a variety of apps in a guided experience that's fully integrated into your OpenShift cluster.

Innovation with watsonx, Cloud Paks, & the IBM Cloud platform
Easily integrate generative AI with Watson APIs to extend the power of your apps. Access the IBM middleware in IBM Cloud Paks from within the scalable public cloud. You also get built-in services for monitoring, logging, load-balancing, storage, and security to help you manage an app’s lifecycle.

Up to 99.99% SLA

24x7 SRE global support

Secure by default

Keep Your Own Key (KYOK) with Hyper Protect Crypto Services, FIPS 140-2 Level 4 Certified

Highly-compliant

Cluster Autoscaler

Worldwide SZRs & **MZR**s & extend **on-prem**, at the **edge**, or public cloud environments with **IBM Cloud Satellite**

Workload **Security & Compliance** managed with SCC Workload Protection

Seamless GPU support

Public Slack workspace

Add-on Capabilities

OpenShift Data Foundation
Manage data, stay consistent everywhere, handle application needs.

OpenShift AI
Build, deploy, and manage AI-enabled applications.

Tekton
Create Kubernetes-native CI/CD pipelines with maximum speed and flexibility.

Our Clients

Masters Tournament · PUMA · Shell · Volkswagen · ESPN · US Open · CaixaBank · bradesco · Recording Academy · accenture

IBM

OpenShift Day 2 Responsibilities

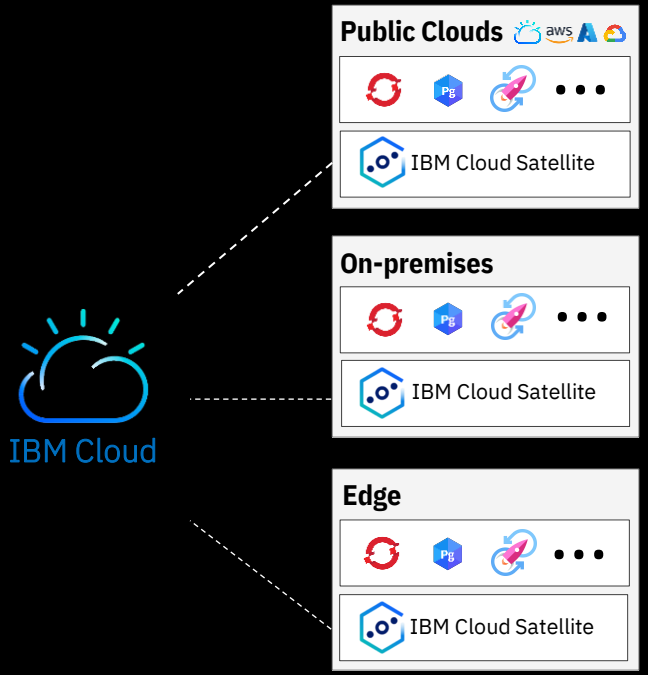
IBM enables you to focus on your your core business, not platform management

Responsibilities:

- Customer
- IBM
- Shared

	DIY	With ROKS
Create and configure OpenShift clusters, including geographic deployment options	Customer	Shared
Integrate CI/CD pipeline to appropriate endpoints & manage your applications	Customer	Shared
Automated provisioning and configuration of Infrastructure (compute, network and storage)	Customer	IBM
Automated **installation and configuration of OpenShift,** including HA cross zone configuration	Customer	IBM
Automatic upgrades of all components (operating system, OpenShift components, and in cluster services)	Customer	IBM
Security patch management for OS and OpenShift	Customer	IBM
Automatic **failure recovery** for OpenShift components and worker nodes	Customer	IBM
Automatic **scaling** of OpenShift configuration	Customer	IBM
Automatic **backups** of core OpenShift ETCD data	Customer	IBM
Built in integration with cloud platform - monitoring, logging, KeyProtect, IAM, ActivityTracker, Storage, COS, Security Advisor, Service Catalog, Container Registry and Vulnerability Advisor	Customer	IBM
Built in **Load Balancer, VPN, Proxy, Network edge nodes, Private Clusters and VPC** capabilities	Customer	IBM
Built-in Security including **image signing**, image deployment enforcement, and **hardware trust**	Customer	IBM
24/7 **global SRE** team to maintain the health of the environment and help with OpenShift	Customer	IBM
Global SRE has deep experience and skill in IBM Cloud Infrastructure, Kubernetes and OpenShift, resulting in much **faster problem resolution**	Customer	IBM
Automatic compliance for your OpenShift environment **(HIPAA, PCI, SOC1, SOC2, SOC3, ISO)**	Customer	IBM
Capacity expansion through a single click	Customer	IBM
Automatic **multi-zone deployment in MZRs**, including integration with CIS to do cross zone traffic routing	Customer	IBM
Automatic Operating System **performance tuning and security hardening**	Customer	IBM

Deployment Options with IBM Cloud Satellite



Location

Client-controlled infrastructure outside of IBM Cloud data centers

Client manages their hosts (infrastructure) within a location

Flexibility

Run MAS where it makes sense

For regulated workloads, sovereignty & data gravity concerns, migrations, edge platforms, low latency

Flexible infrastructure options including bring your own – Install on HyperV, Vmware, bare metal, any cloud, integrated appliances

Control

Auditable inventory of all network connections and traffic

Central observability (monitoring, security & compliance posture management from a single pane of glass with SCC Workload Protection)

IBM Cloud for Financial Services Validated

Satellite Reference Architecture for FS Cloud

IBM Cloud Satellite

Workloads located where you need them

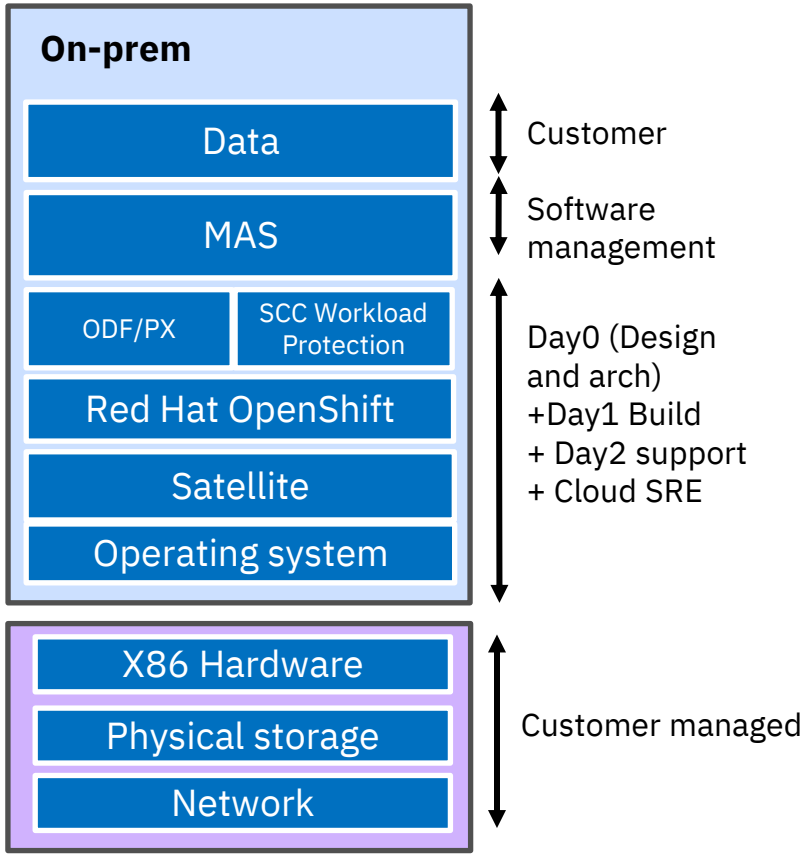
Shared responsibility model for end-user support

IBM :

- Provides support for OS and above
- Includes lifecycle management of managed platform aaS
  - Red Hat OpenShift
  - Satellite
  - Storage - Red Hat OpenShift Data Foundation (ODF)
- IBM Cloud SRE support to help debug platform related problems
- Maximo software support
- **Optional** – Full stack build and Day2 support from OS to MAS software as single point of support avoiding silos (IBM Consulting)
- **Optional** - Architectural services for DR and multi-cluster/location design(Expert labs)

Customer:

- Owns and manages infrastructure
  - Hardware
  - Storage
  - Network
- Owns and manages application integration to other backend systems
- Respond to end user issues and initiate troubleshooting
  - Work with IBM Cloud SRE teams to debug platform issues



MAS Deployment Decisions

On-Premises or Cloud/Hosted

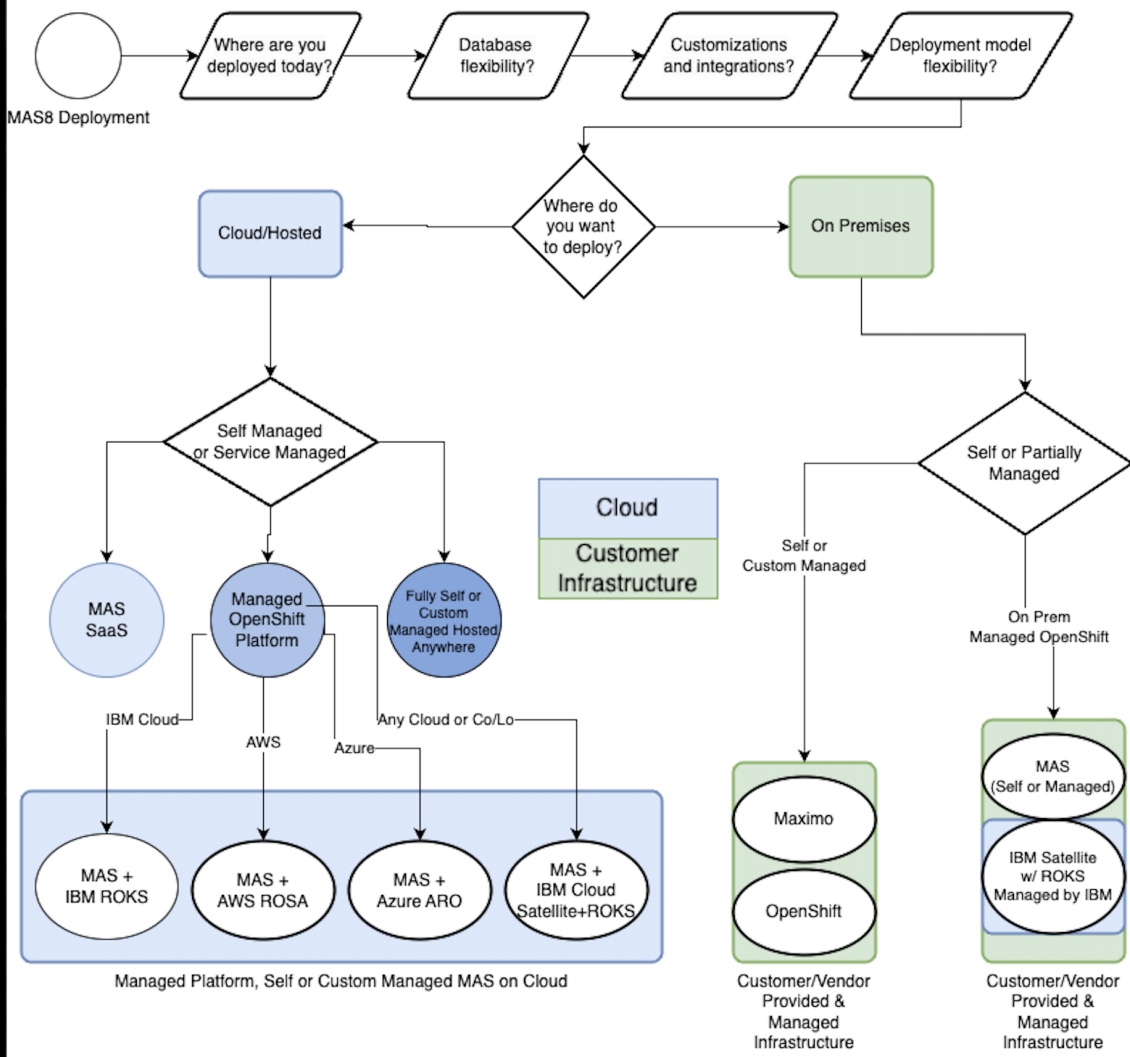
Fully managed, partially managed, managed OpenShift

Hybrid Cloud or Multi Cloud

IBM Cloud Satellite with ROKS can:

Bring managed OpenShift to your data center and/or other clouds with IBM Cloud Satellite

Simplify Hybrid and/or Multi Cloud deploy and management complexity including single pane management



Example Pricing:
MAS on Satellite and/or ROKS – T-Shirt Sized Pricing

Affordable and a fraction of the cost of a single OpenShift FTE

IBM Cloud Satellite/ROKS Pricing for MAS						On Premesis Option w/ Customer Infrastructure		IBM Cloud Hosted Option w/ Infrastructure			
Maximo Environment Size	Concurrent users	No of JVMs	No of ROKS clusters	vCPUs*	Memory(GB)	No of worker nodes (Customer provided infra)	Satellite w/ ROKS cost/month* (approx) - BYOL for OCP	ROKS Nodes Servers	OCP Bundled with MAS	ROKS cost/month *(approx) - BYOL for OCP (AppPoints or Customer Provided)	IBM Cloud Monitoring, Logging, Activity Tracker
Small	50	3	1 Prod 1 Dev	33 18	182 137	4-8x48 3-8x48	$1,959.17	4-8x64 3-8x64	Yes	$ 3,014.90	Included
Medium	200	6	1 Prod 1 Dev	46.5 18	364.5 137.5	3-16x128 3-8x48	$2,084.88	3-16x128 3-8x64	Yes	$ 3,882.50	Included
Large	500	9	1 prod 3 Dev (shared)	78.5 54	797.5 412.5	5-16x160 4-16x112	$2,650.61	7-16x128 4-16x128	Yes	$ 9,314.80	Included

- OCP Entitlements with MAS leveraged, ROKS provided OCP license charges are optional

Why IBM Cloud Satellite and ROKS for Modernized Apps

Why ROKS Hosted in the IBM Cloud?

- **Speed –** Reduce your app migration by months versus DIY OpenShift
- **Skills – No OpenShift skills or not enough.** Easily address the OpenShift skills requirement, you focus on your application
- **Save $$$** – Over 70% savings versus DIY deployment and management of OpenShift, use bundled OpenShift entitlements with MAS

Why ROKS with IBM Cloud Satellite?

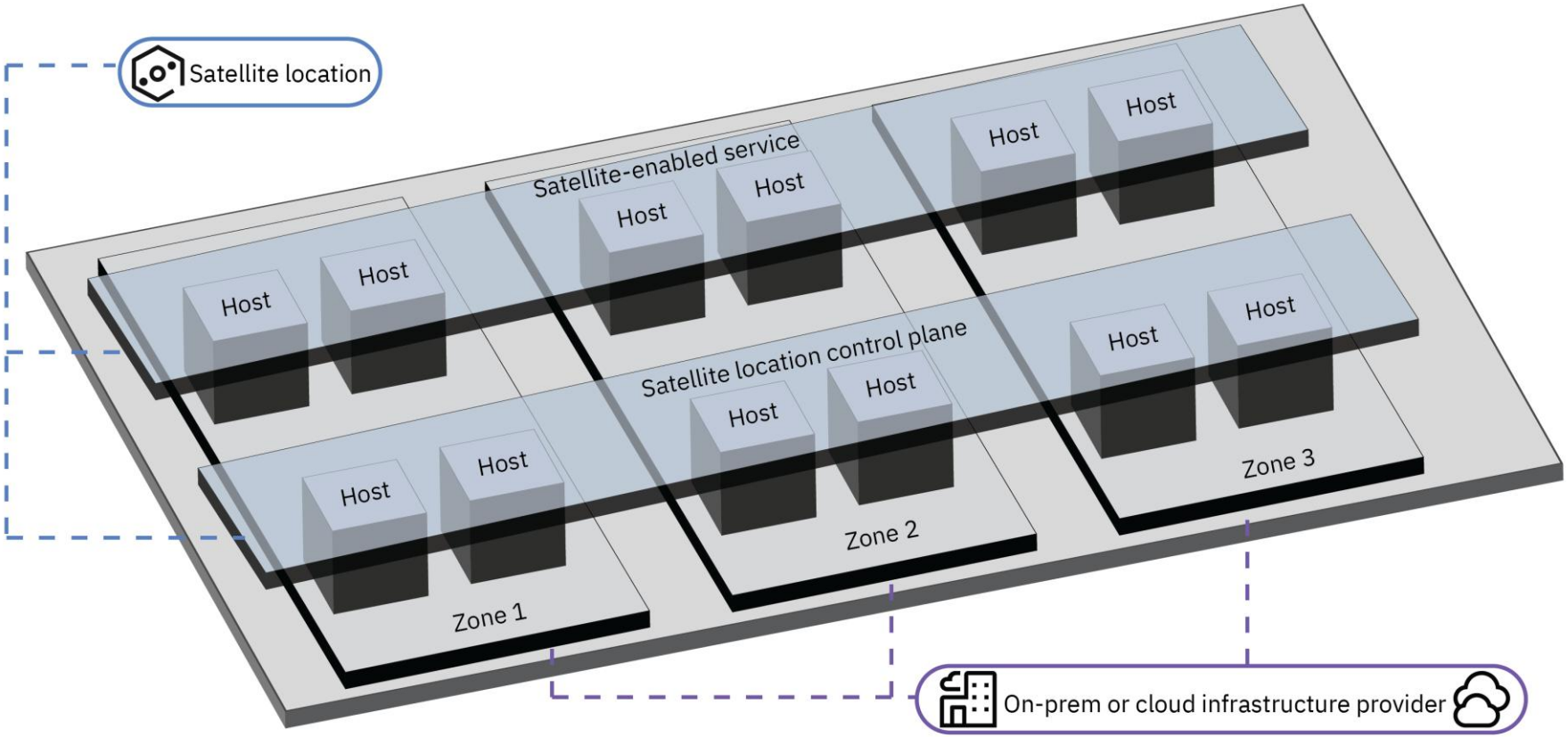
…all the ROKS benefits anywhere, plus:

- **Stay on prem** – Regulatory requirements, latency, investment, etc. On-prem OpenShift management by IBM.
- **Keep your app Database As-Is –** No migration required for external databases
- **We bring the cloud to you –** Speed, agility, lower costs… all in your data center or ANYWHERE: hybrid cloud, multi-cloud

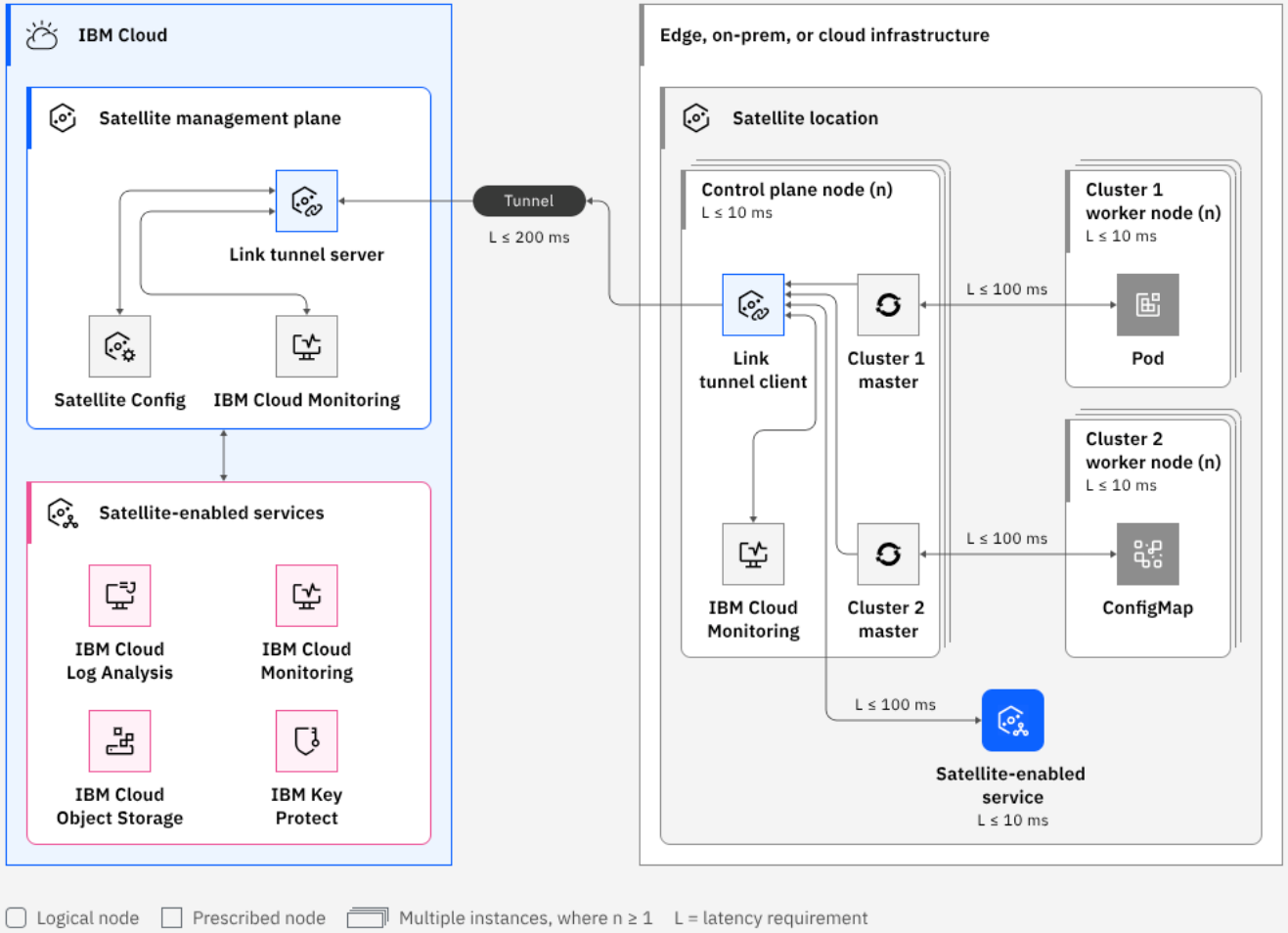
Focus on MAS application and your business while IBM reduces your OpenShift load and Security & Compliance management efforts

Backup

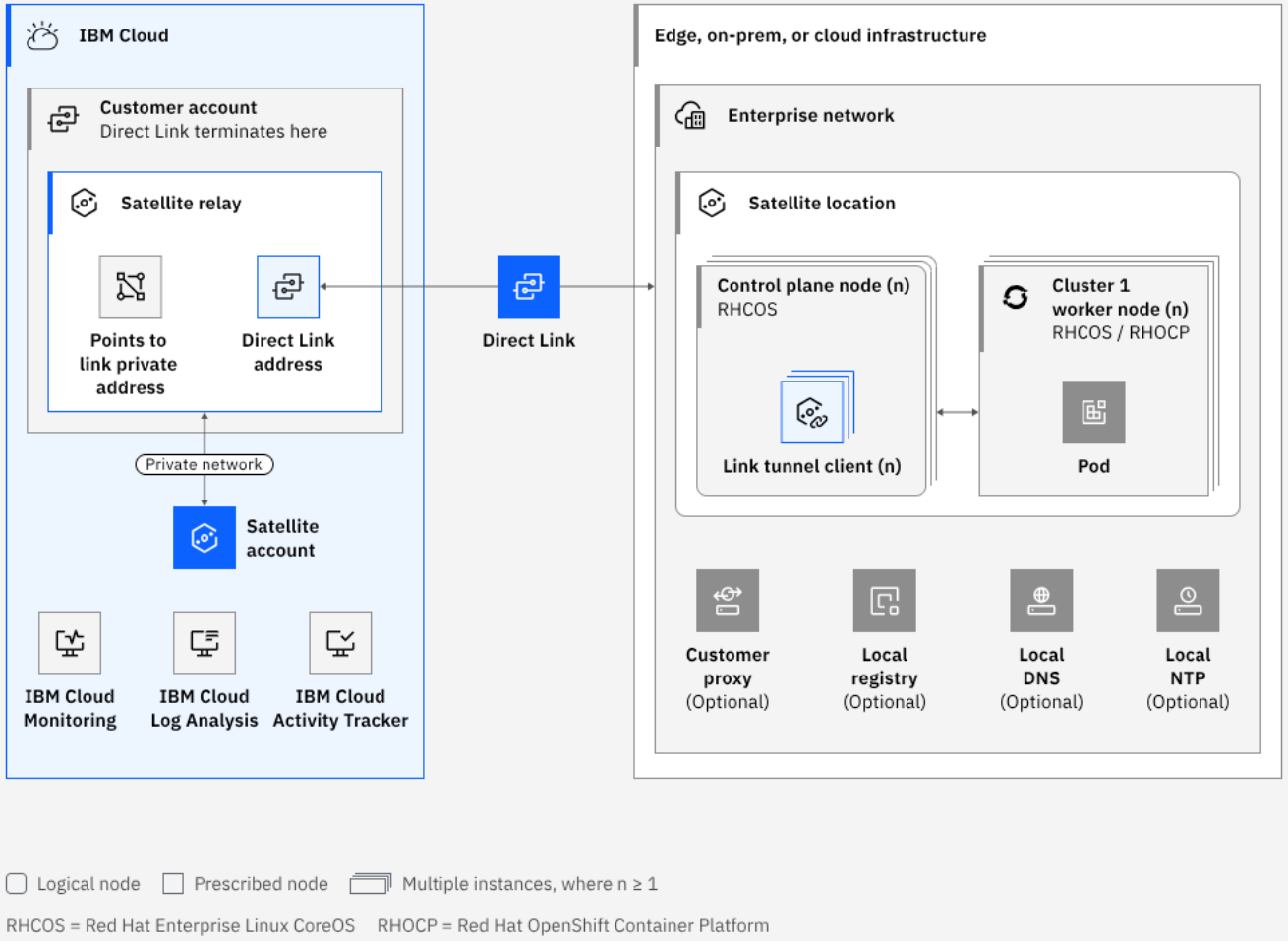
Satellite Architecture
Multi-Zone HA Architecture Built on Kubernetes



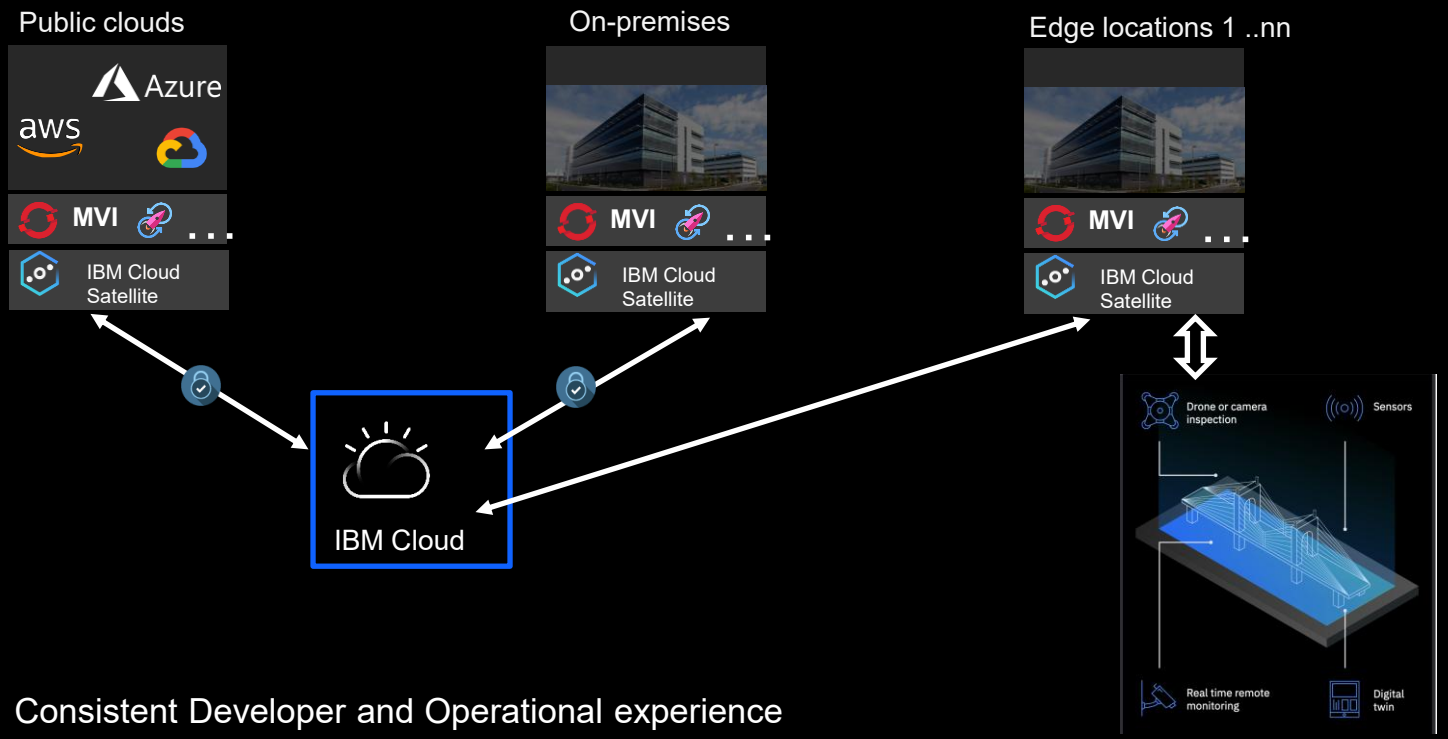
Satellite Architecture



Satellite Architecture with Direct Link

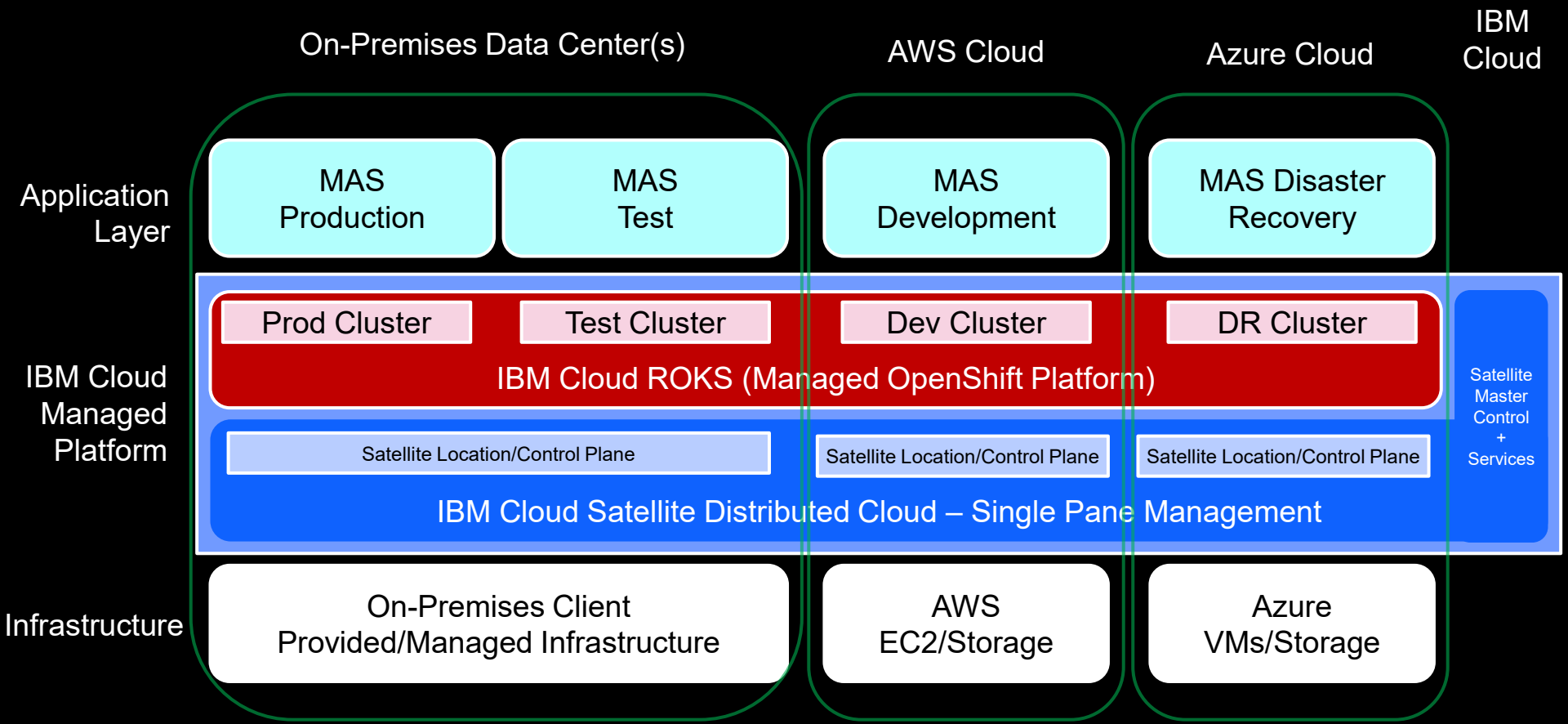


Consistent Architecture and tools across Hybrid multi-cloud and Edge locations

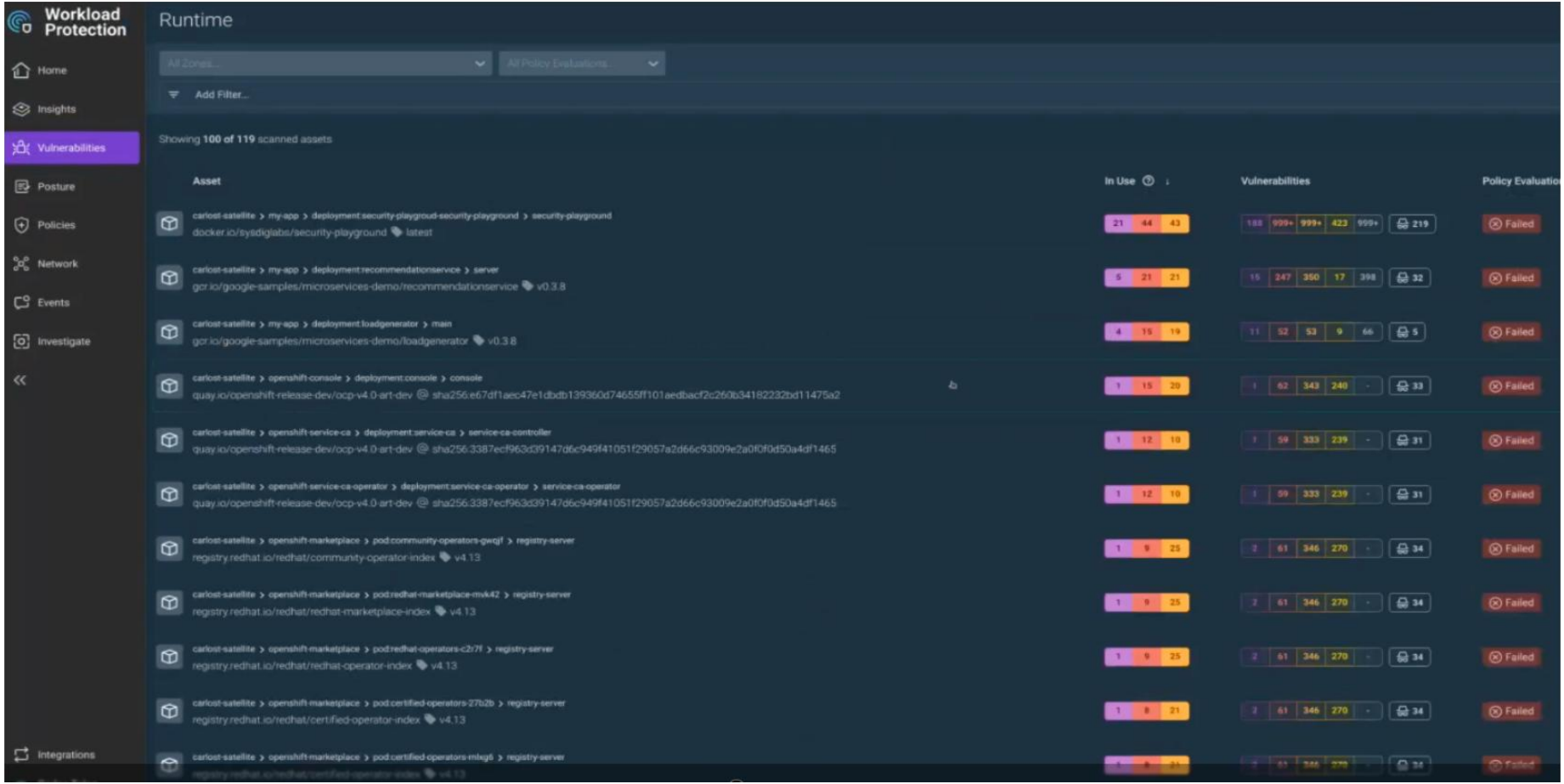


1. Consistent Developer and Operational experience
2. Fully Automated Deployments on other Clouds

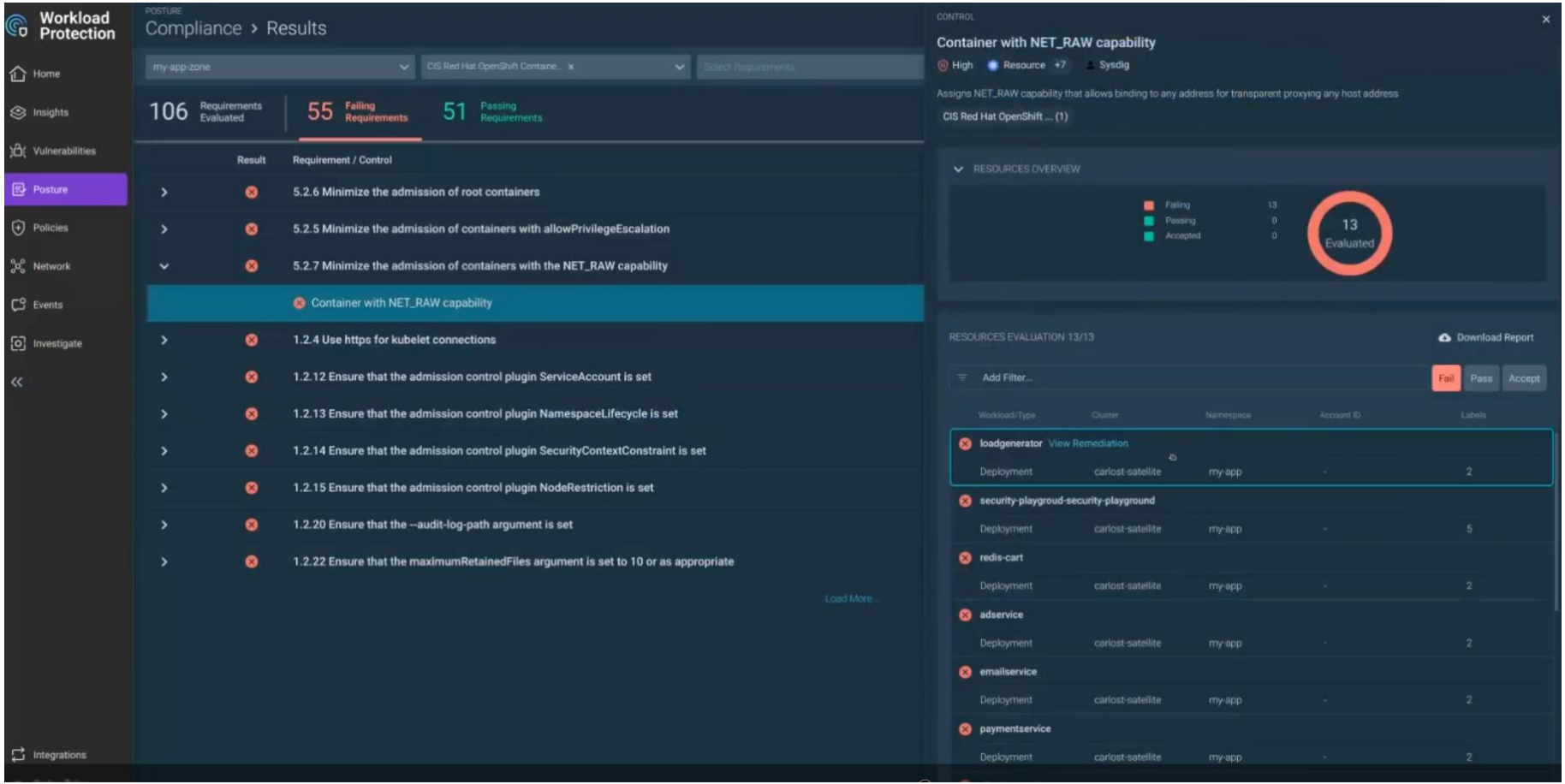
Example MAS Hybrid and Multi-Cloud Management



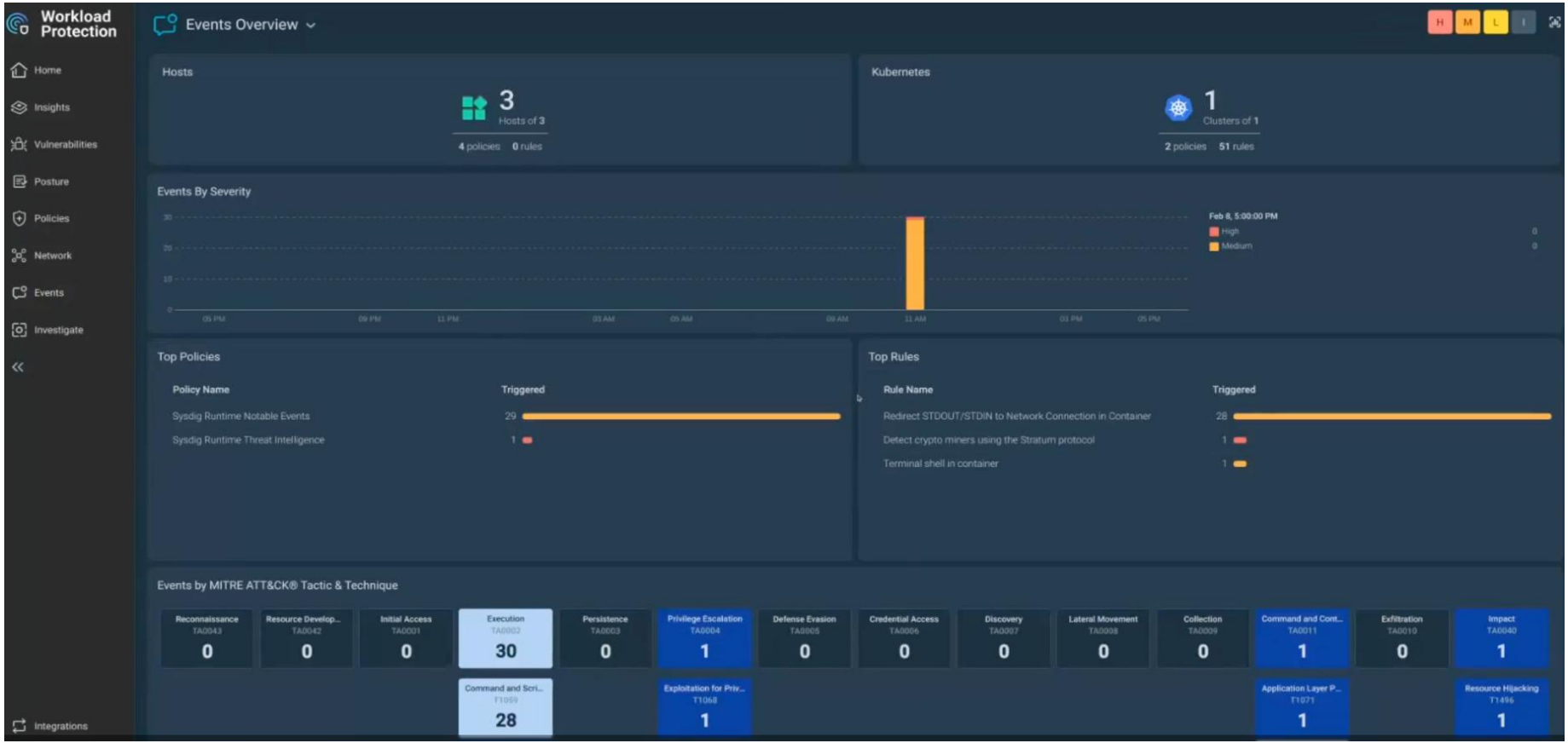
SCC Workload Protection Runtime vulnerabilities reporting



SCC Workload Protection Compliance posture management



SCC Workload Protection Events overview/summary

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