Red Hat Advanced Cluster Management for Kubernetes

What's new in 2.5

Alfred Bach

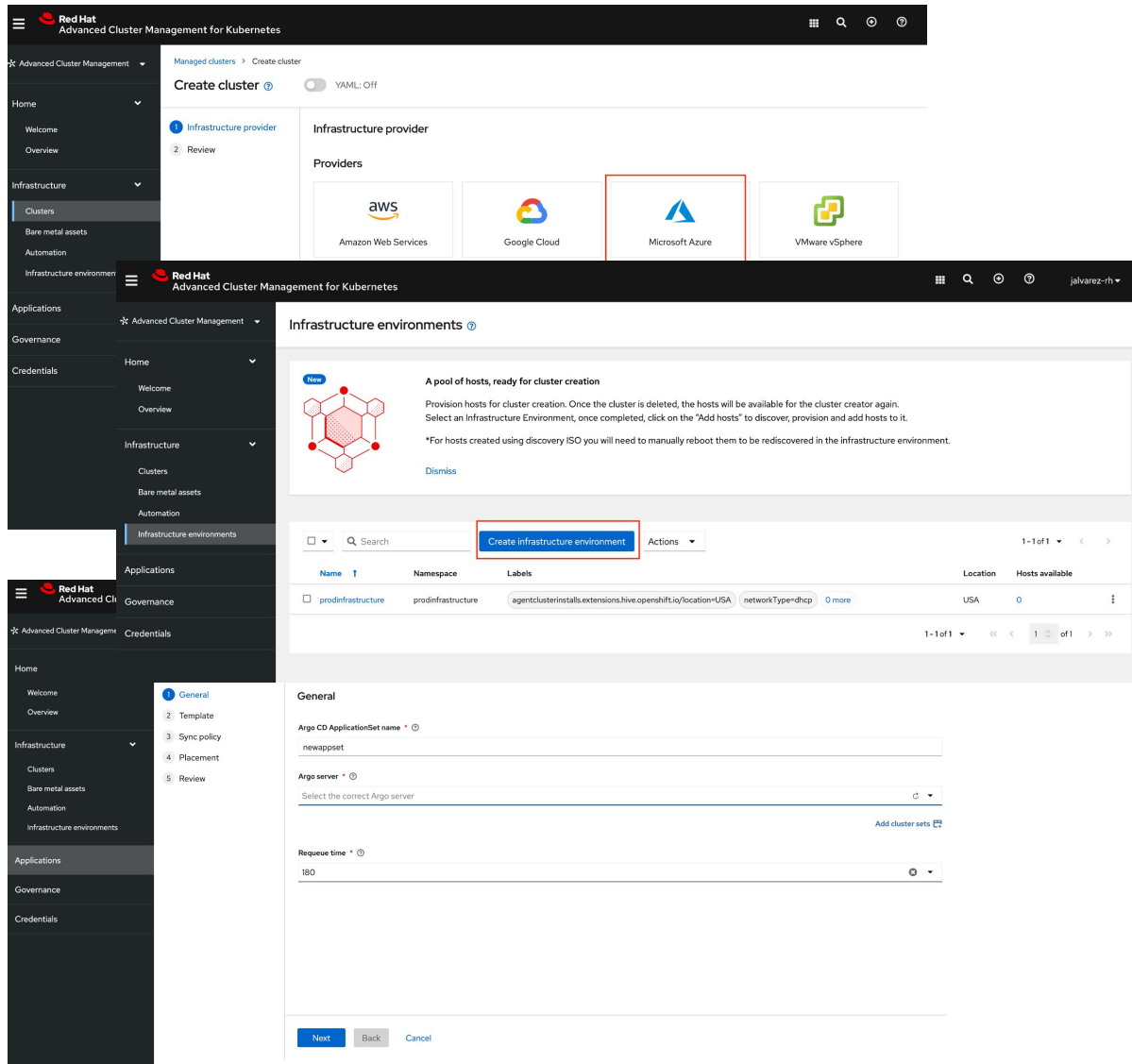Red Hat EMEA

Red Hat Advanced Cluster Management for Kubernetes

What's new in RHACM 2.5
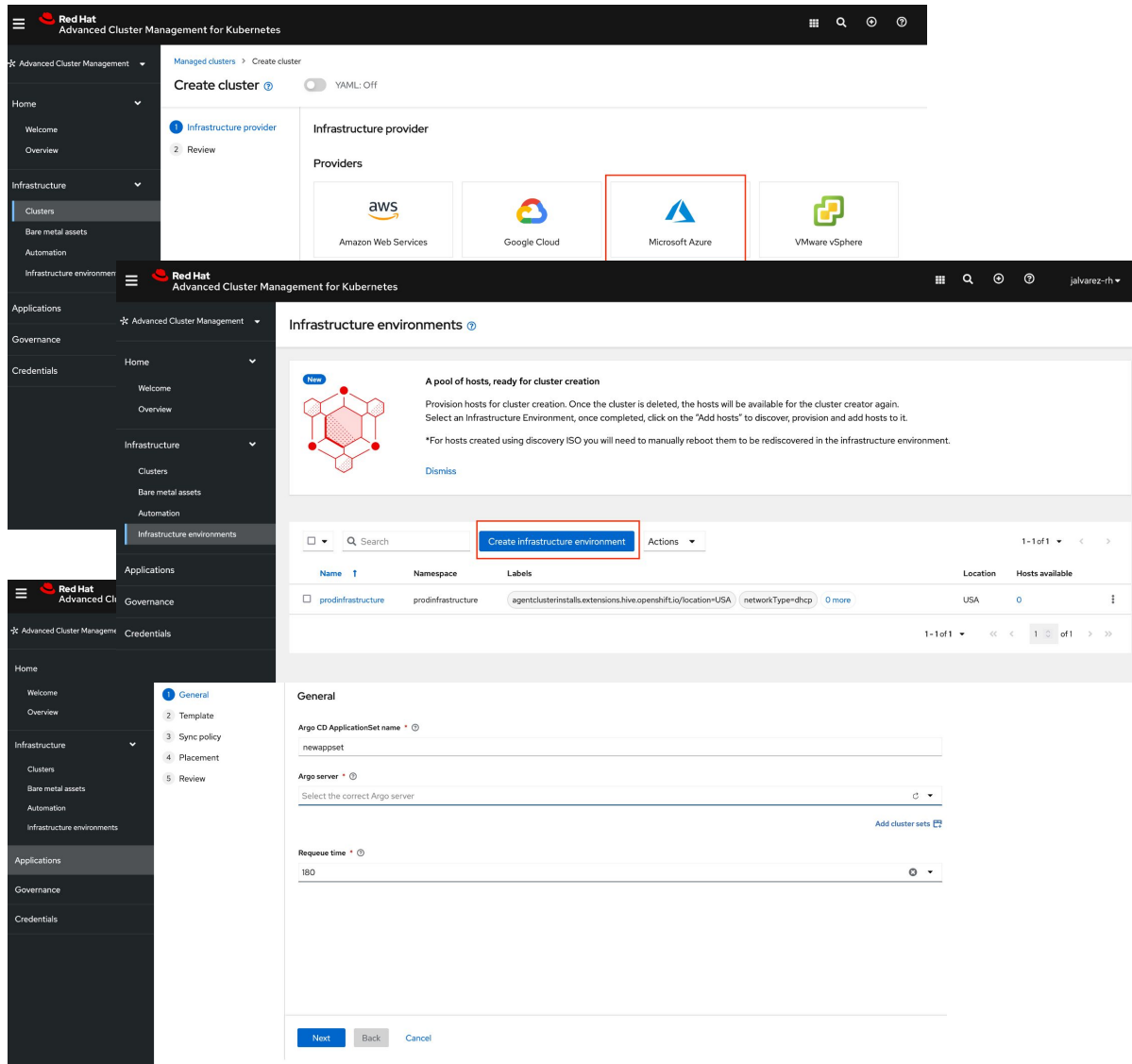
🌐 Manage OpenShift Everywhere

- **Cluster Lifecycle:** New provider support for OCP on Red Hat Virtualization.
- **Arm architecture:** Import and manage OpenShift clusters on **Arm**. Hub can also run on **Arm**.
  - Create OCP on Arm is **Tech Preview**
- **Central infrastructure Management** (**CIM**): for bare metal deployments now **GA**
- **Hosted Control Planes:** Hypershift project comes to life in RHACM. Host and provision containerized OpenShift Control planes at scale – **Tech Preview**

* – GA with OCP 4.10, ODF 4.10 and ACM 2.5
Product Managers: Jeff Brent, Scott Berens, Bradd Weidenbenner, Christian Stark

Red Hat Advanced Cluster Management for Kubernetes
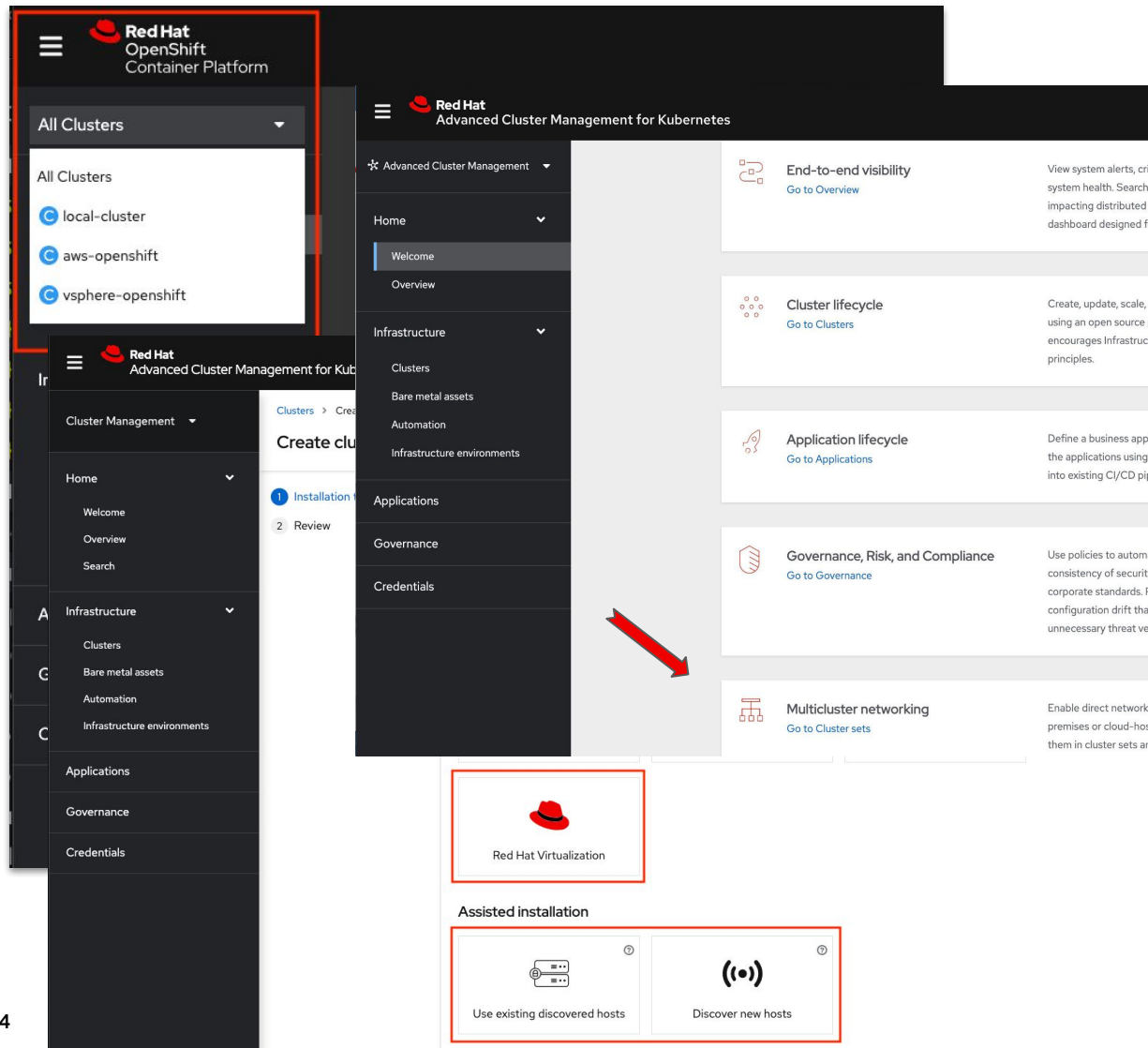
What's new in RHACM 2.5

Better Together

- **Ansible Automation Platform:** Access RHACM inventory directly from AAP2 using Ansible collections. – **Dev Preview**
- **ArgoCD Application Sets:** support for creating ApplicationSets from RHACM dashboard now **GA**
- **Gatekeeper Mutating Webhooks:** provides proactive management and stronger security

* – GA with OCP 4.10, ODF 4.10 and ACM 2.5
Product Managers: Jeff Brent, Scott Berens, Bradd Weidenbenner, Christian Stark

V0000000

Red Hat Advanced Cluster Management for Kubernetes

What's new in RHACM 2.5

Enhanced User Experience

- **Multi-cluster networking:** Get rich networking capabilities with Submariner and Globalnet support now **GA**
- **Unified console:** Use OCP console to manage multiple clusters quickly through ACM dynamic plugin – **Tech Preview**
- **PolicySets:** Ease of policy management through grouping of policies for specific purposes
- **Service Level Objectives (SLO)** definitions from the Grafana Dashboard now **GA**

Business Continuity

- **Hub Backup and Restore** operator now generally available
- **RHODF Integration*:** Leverage ODF for disaster recovery strategy across stateful workloads now generally available
- **Expanded Monitoring:** Export centralized metrics to preferred corporate tools like Kafka. Dynamically collect metrics from SNO clusters

4

* – GA with OCP 4.10, ODF 4.10 and ACM 2.5
Product Managers: Jeff Brent, Scott Berens, Bradd Weidenbenner, Christian Stark

Deep Dive –
2.5 Release Themes

Manage OpenShift Everywhere
Central infrastructure Management (CIM) – now Generally Available

▶ Sidebar submenu category – **Infrastructure Environments**

▶ Manage a list of hosts directly from **RHACM**

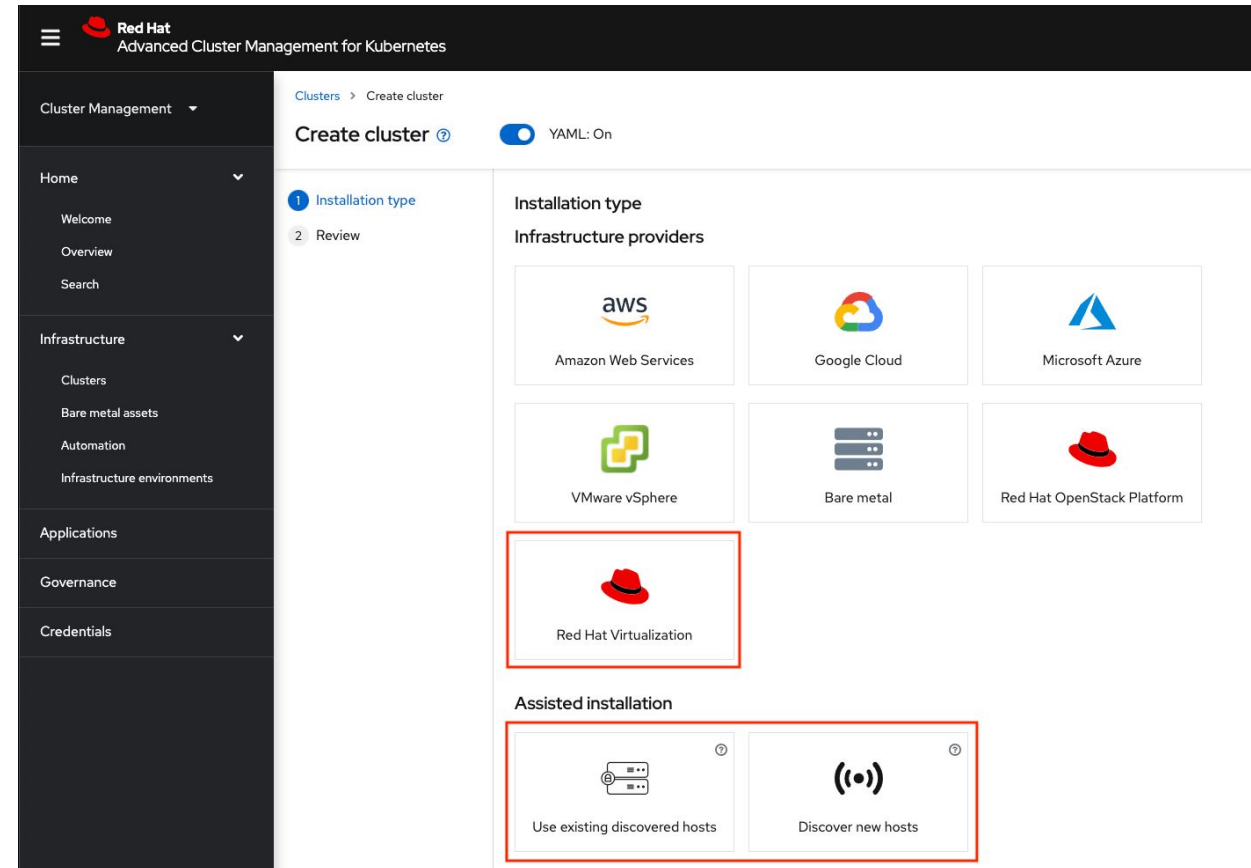▶ **Deploy clusters** directly into new Infrastructure

▶ Add hosts via discovery ISO

V0000000

Manage OpenShift Everywhere
New supported platforms – Red Hat Virtualization and Arm architecture

▸ Easily provision **OCP** clusters on **RHV** and import and manage them.

▸ Import and manage **OCP** clusters on the **Arm** architecture.

V0000000

CONFIDENTIAL designator

- ▸ The **HyperShift** project comes to life in **RHACM** easing the operation and management of multiple OpenShift **control planes**

- ▸ Reduction of total **cluster costs** in the reduction of resource footprint

- ▸ **Speeds up** the time to provision new clusters at scale

- ▸ Enables **portability** across **cloud environments** with a strong separation of concerns between management and workloads

HyperShift cluster

V0000000

Red Hat
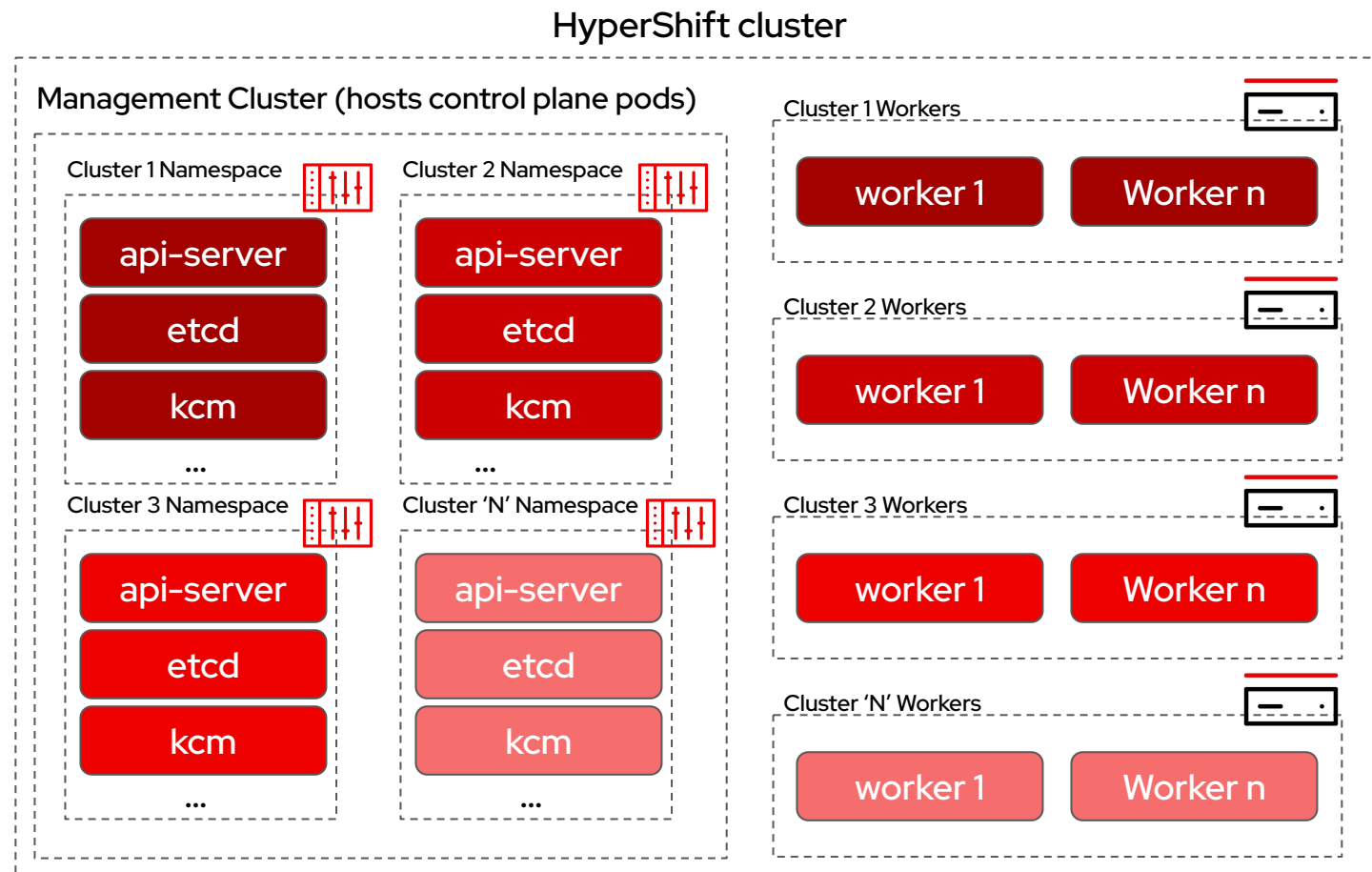
Better together
OpenShift GitOps/ArgoCD ApplicationSets – now Generally Available

▶ **Define and manage** the ArgoCD ApplicationSet directly from the RHACM UI

▶ Allows unprivileged cluster users (those without access to the ArgoCD namespace) **to deploy** ArgoCD applications without the need to involve cluster administrators

▶ No more juggling of multiple ArgoCD Application resources to target multiple clusters/repos

9

Better together
AAP 2 Inventory integration – Developer Preview
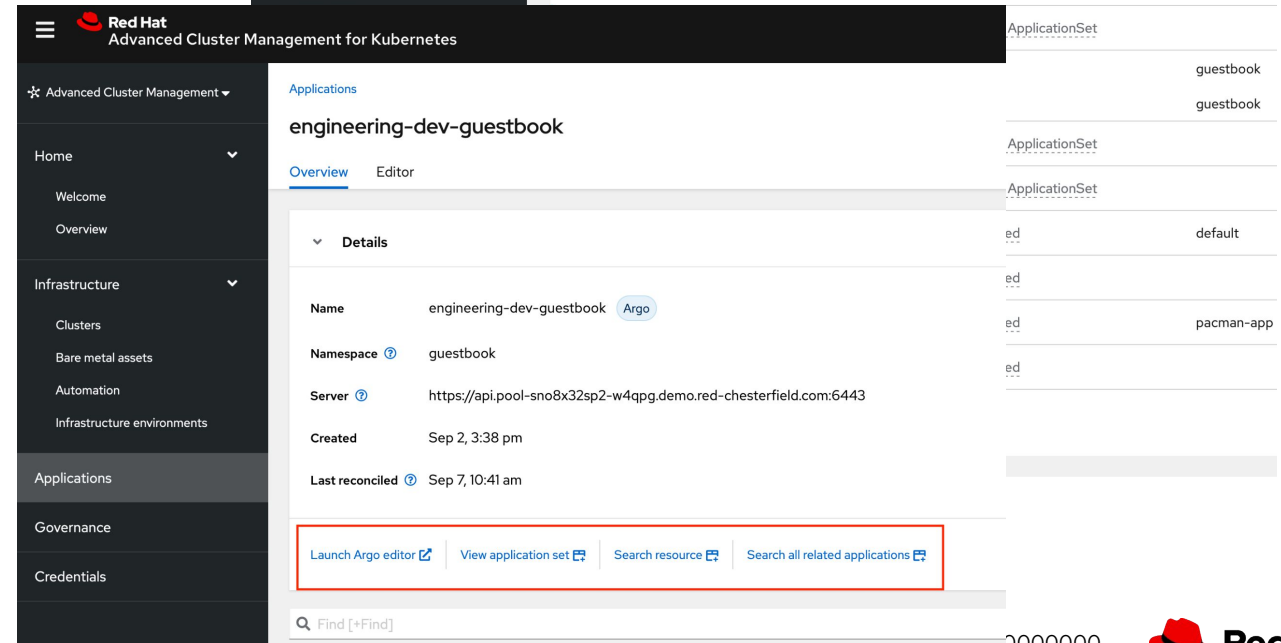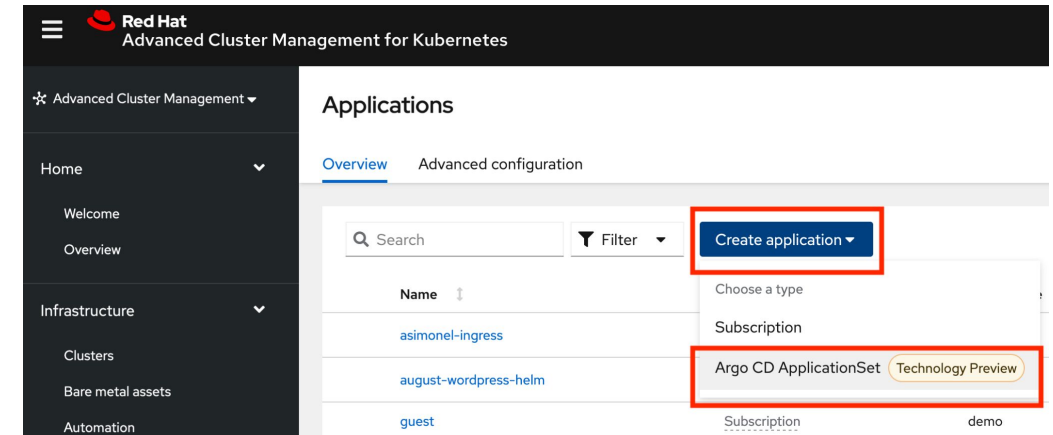
▸ **Easily access** ACM functionality, such as cluster creation, directly from Ansible Automation Platform using the **Ansible collections**

▸ Sync ACM inventory with **Ansible inventory** and see it through the Ansible controller UI
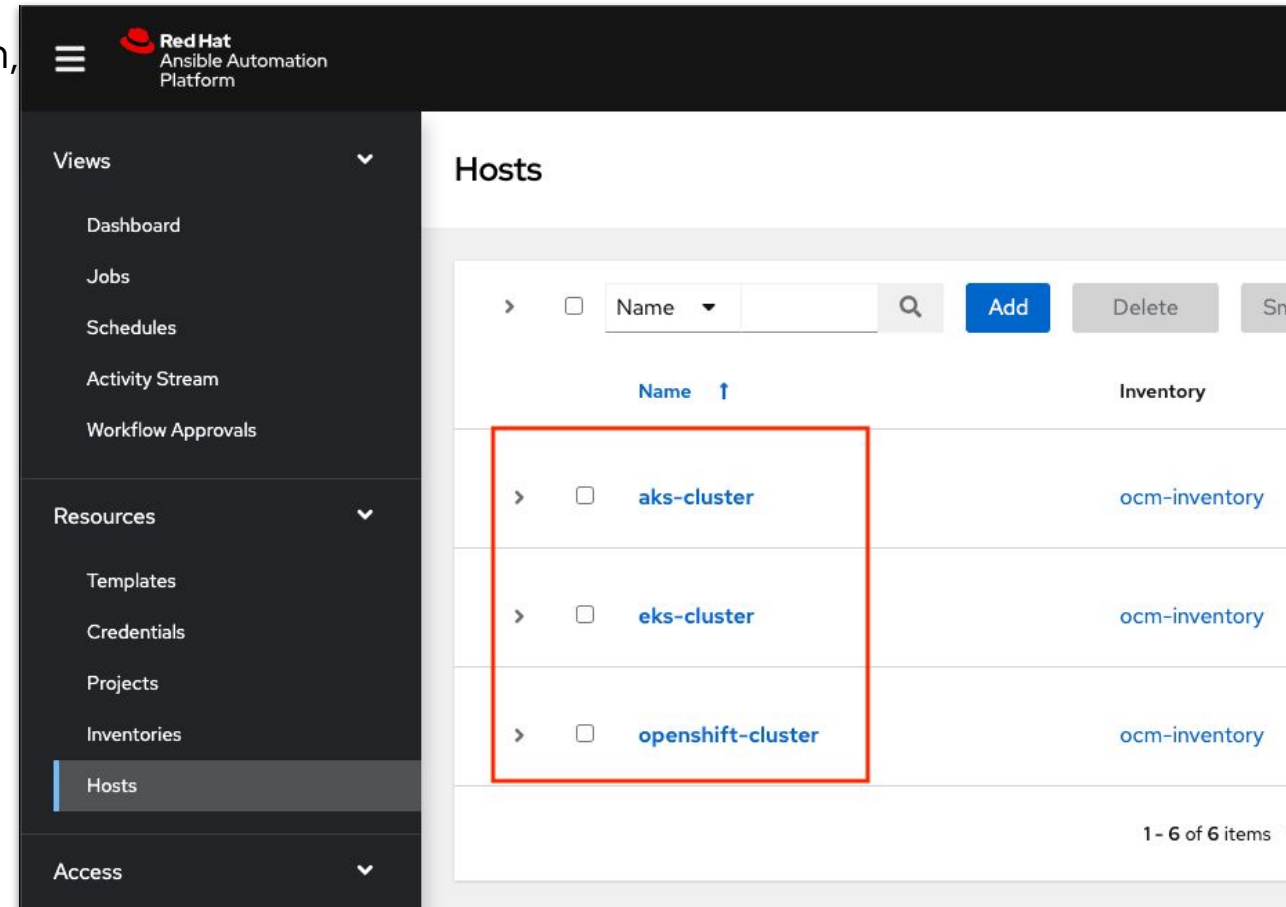
Better together
Gatekeeper Mutating Webhooks

▶ Get **stronger security** with Gatekeeper Mutating Webhooks

▶ **Implements controls** around updating nonconformant resources

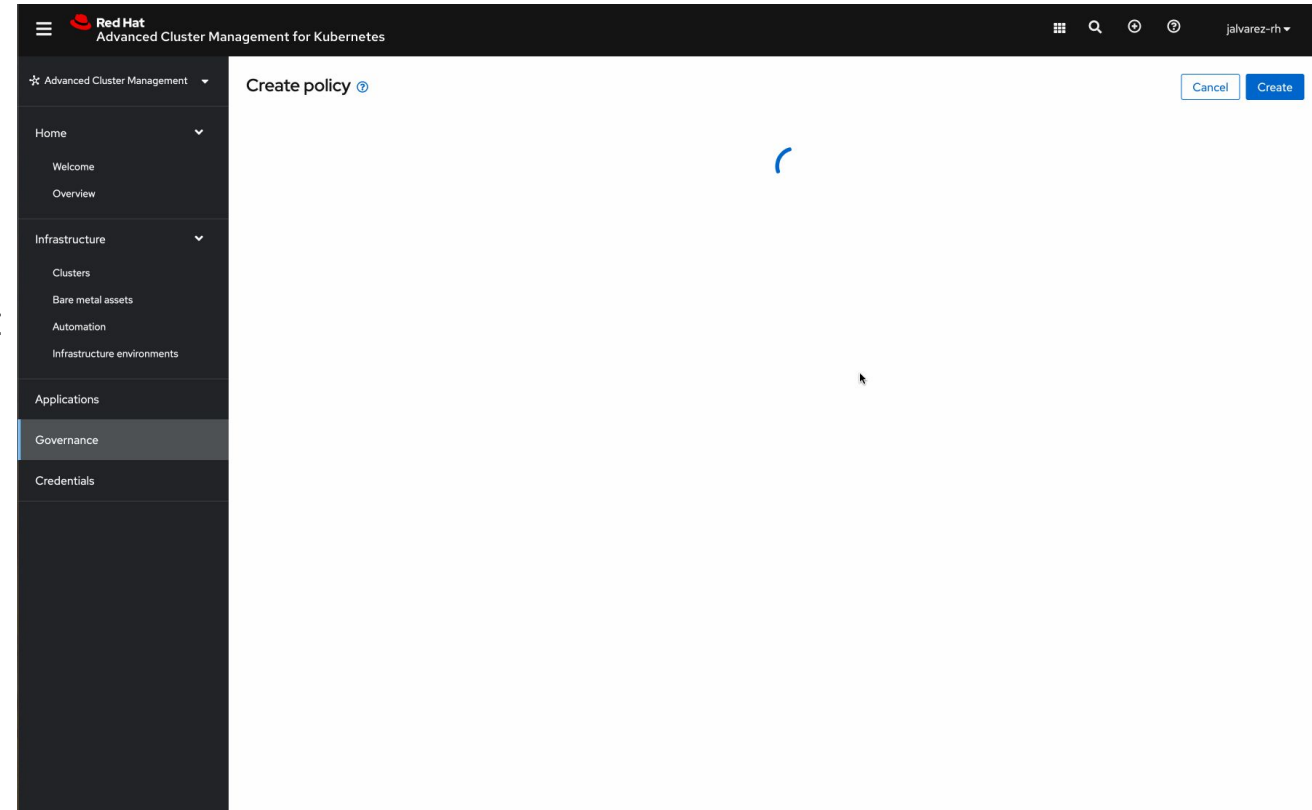▶ Can work with policy templating for **additional encryption** with secrets management integration

Enhanced User Experience
Submariner add-on - now generally available

▸ Presenting **Submariner**: an CNCF open source project in the form of an **add-on** for RHACM, now generally available

▸ Enable **direct networking** between Pods in different Kubernetes clusters as well as **Service Discovery**, either on-premises or in the cloud

▸ Leverage **Cluster Sets** - All done via a group of clusters with a high degree of mutual trust that share services

▸ **Globalnet** - Support for interconnecting clusters with overlapping CIDRs

V0000000

Enhanced User Experience
Submariner add-on – now generally available

ACM Hub

| API | CLI | Console |

ManagedClusterSet   test   • • •

Namespaces   submariner-test-broker   • • •

cluster-east   cluster-west

subctl

subctl

cluster-east   Red Hat OpenShift

```
cluster.open-cluster-management.io/clusterset: test
cluster.open-cluster-management.io/submariner-agent: true
```

cluster-west   Red Hat OpenShift

```
cluster.open-cluster-management.io/clusterset: test
cluster.open-cluster-management.io/submariner-agent: true
```
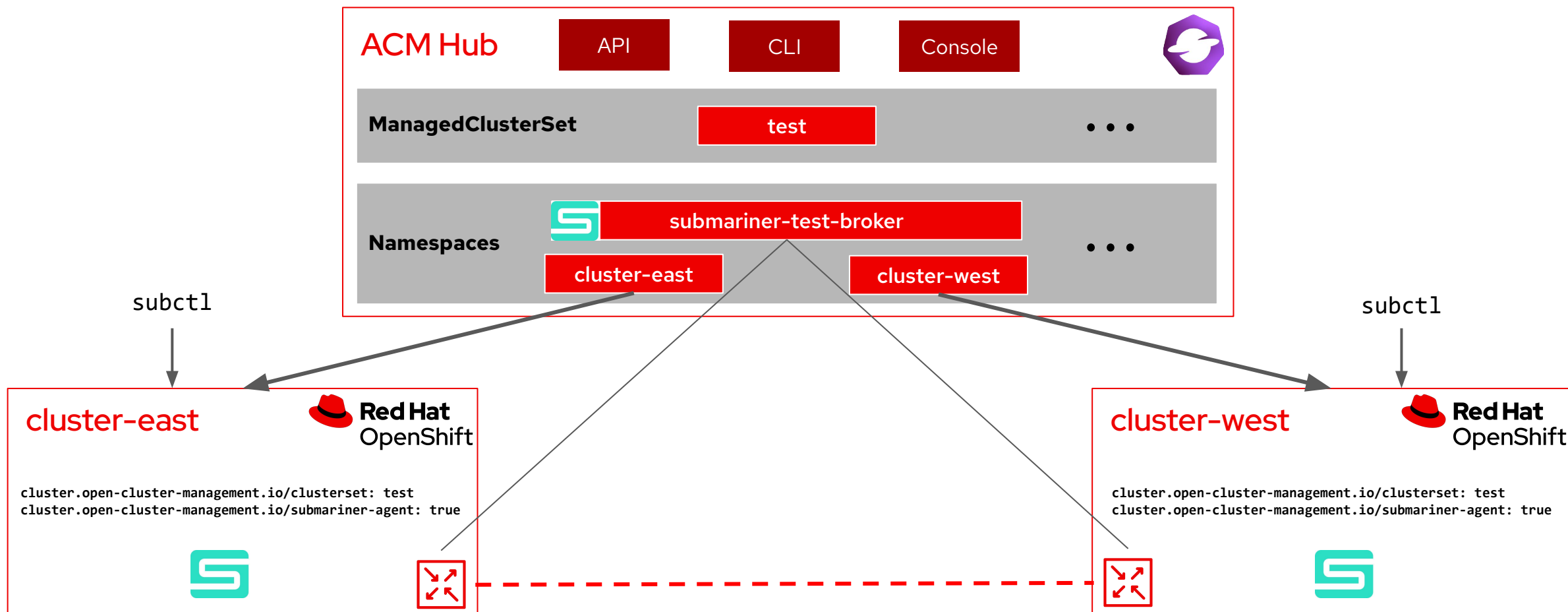
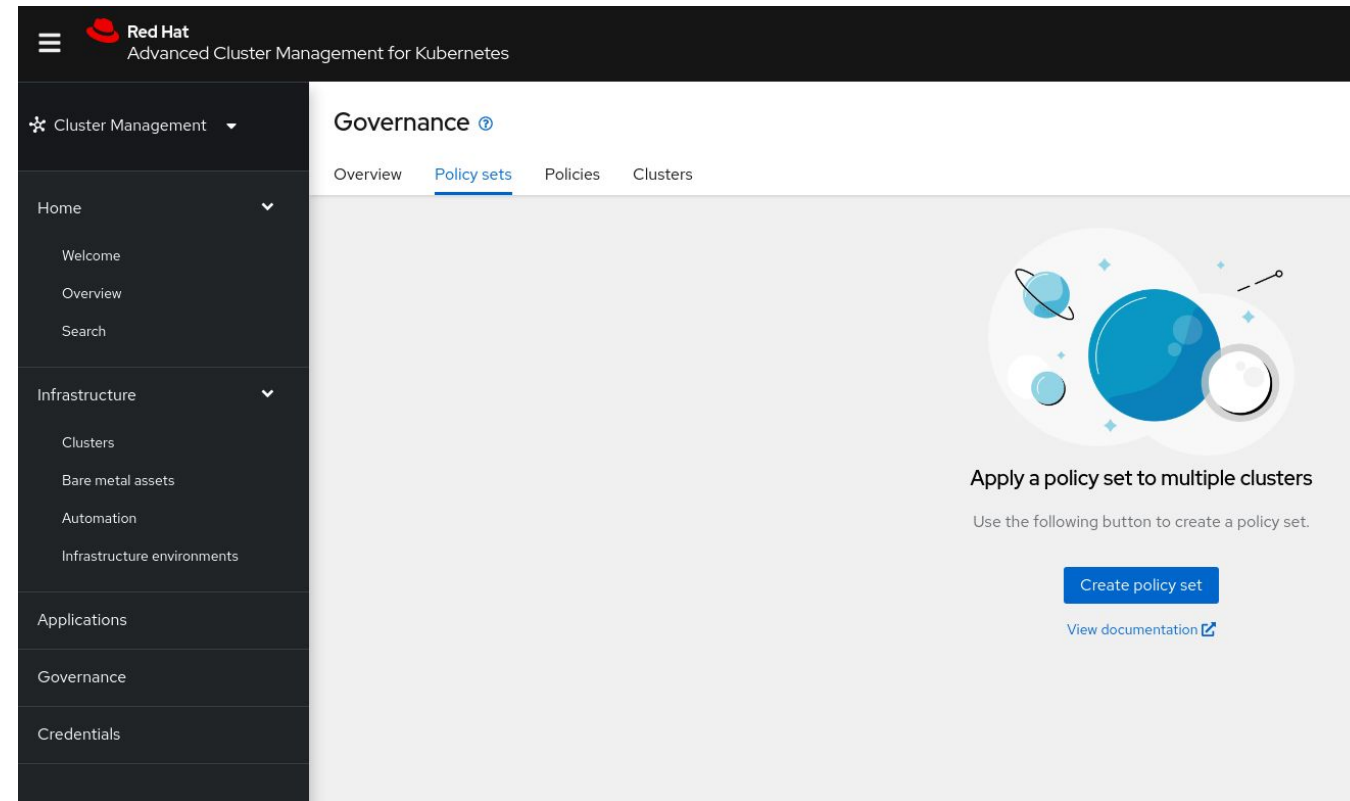# Enhanced User Experience
PolicySets

▶ **Ease** of policy management through **PolicySets**

▶ **Grouping** of policies for **specific purposes**, e.g.,
Cluster-Hardening, grouping Gatekeeper-Policies,
PCI-StoreFront, HIPAA-Backend etc.

▶ **Ensures** an enhanced user experience with the ease
of **organizing, managing**, and enforcing
Policies/PolicySets.

V0000000

Enhanced User Experience
Unified Console Experience – Technology Preview

▶ This experience allows users to select clusters across their company as they enter the hub cluster's OCP console! Bringing together 3 tools into one UX:

- OpenShift Console (OCP) – main user experience for all individual clusters

- Multicluster Engine (MCE) – offers basic cluster inventory/create/update/destroy

- Advanced Cluster Management (ACM) – full multi-cluster management

V0000000
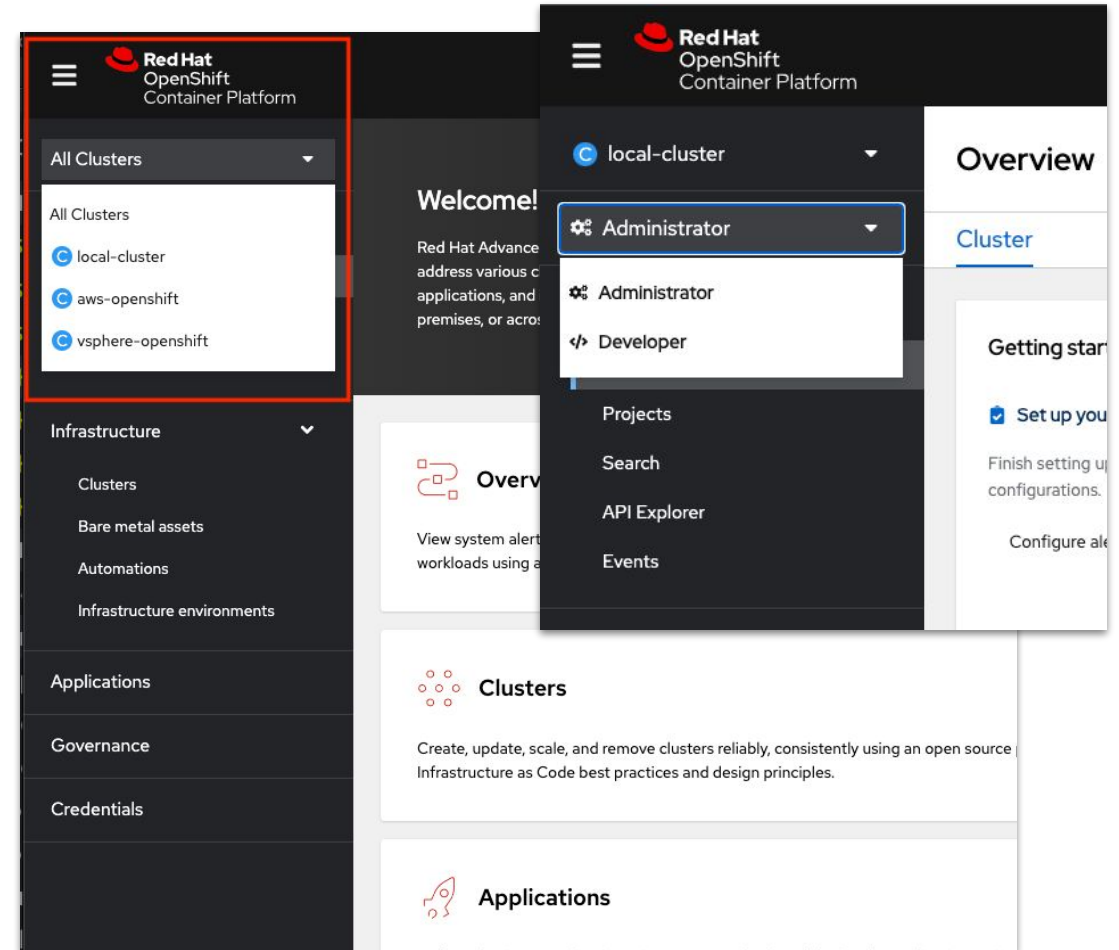
Business Continuity

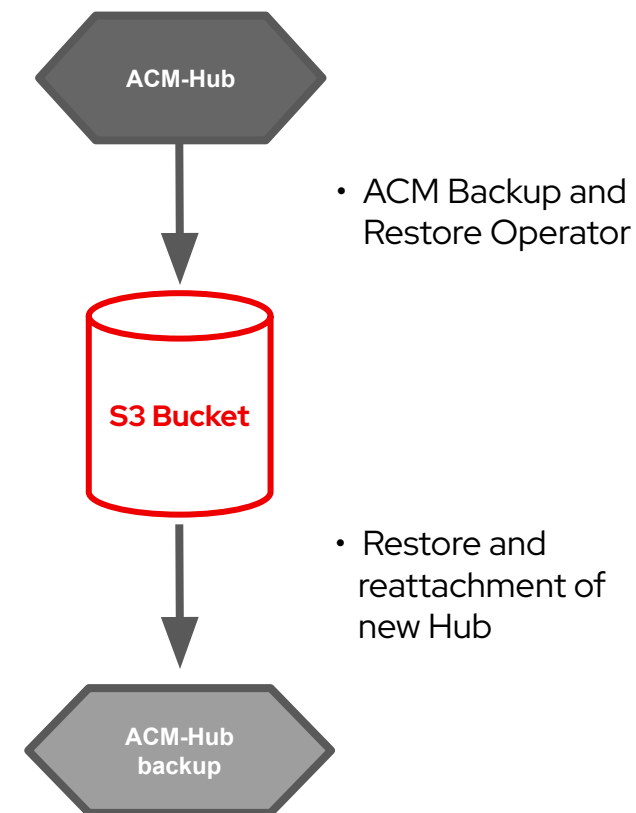## ACM Hub Backup and Restore – now generally available

▸ Leverage a **backup solution** based on OpenShift API for Data Protection (**OADP**)

▸ Automate **Backup and Restore** your Hub instance using an **Operator**

▸ Backing up data of Hub cluster to S3-Storage

ACM-Hub

• ACM Backup and Restore Operator

S3 Bucket

• Restore and reattachment of new Hub

ACM-Hub backup

V0000000

Red Hat

Business Continuity

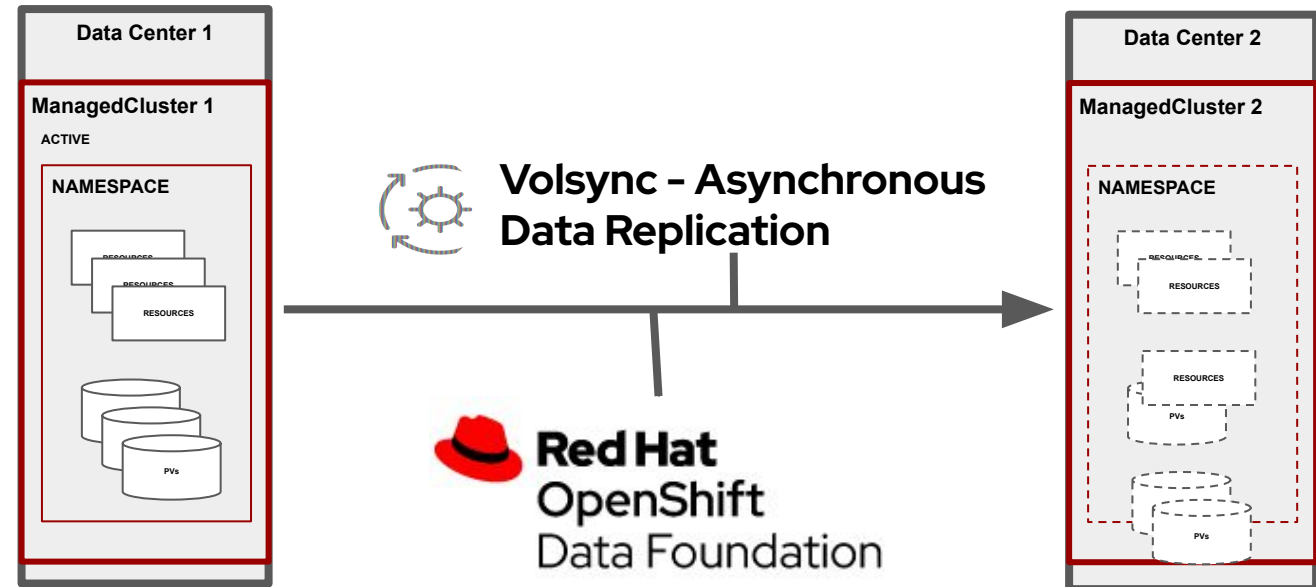## Integrate with Red Hat Data Foundation – now generally available *

▸ **RHODF** along with **RHACM** will ensure you have a robust multi-site, multicluster disaster recovery strategy that protects both Application data and Application state.

▸ RHODF ensures your Application data volumes (PVs) are consistently and frequently replicated resulting in **reduced data loss recovery**

▸ RHODF enabled with RHACM automates the **DR fail-over** and **fail-back** processes ensuring that your recovery is fast and error free.

Red Hat
Advanced Cluster Management
for Kubernetes

Red Hat
Advanced Cluster Management
for Kubernetes

Data Center 1

ManagedCluster 1
ACTIVE

NAMESPACE

RESOURCES
RESOURCES
RESOURCES

PVs

Volsync – Asynchronous Data Replication

Red Hat
OpenShift
Data Foundation

Data Center 2

ManagedCluster 2

NAMESPACE

RESOURCES
RESOURCES

RESOURCES

PVs

PVs

V0000000

Red Hat

* – GA with OCP 4.10, ODF 4.10 and ACM 2.5:

Thank you

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500.

linkedin.com/company/red-hat

youtube.com/user/RedHatVideos

facebook.com/redhatinc

twitter.com/RedHat

Red Hat