

# RHACM 2.5

## Selected Topics

- PolicySets
- Backup and Restore
- Submariner

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# PolicySets



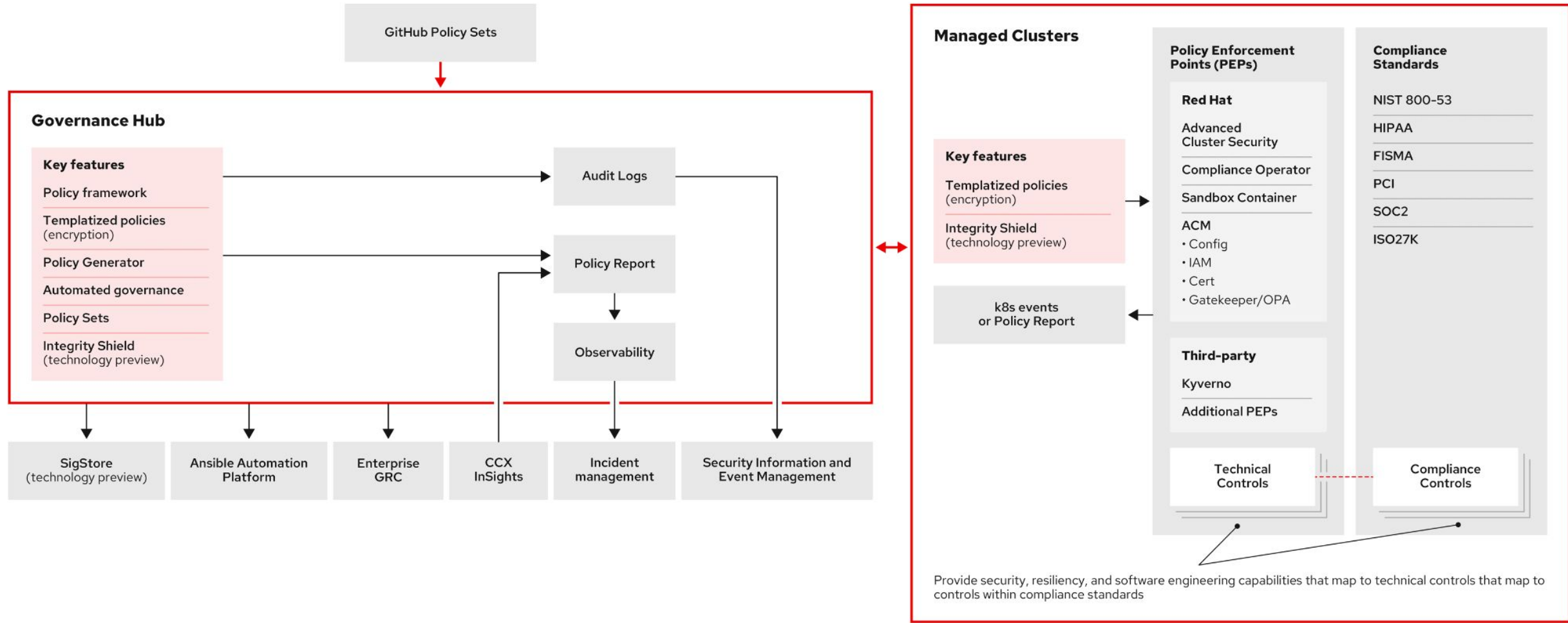
Red Hat  
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# Key features/Business Value

## What are PolicySets

- A PolicySet is a collection of policies that can be placed together instead of having to manage their placement individually. The intent of a particular PolicySet can be specified in the description field and the status of the PolicySet reflects the status of the policies that it contains
- Can be fully used with Gitops and helps to better Group Policies in UI
- Aligns with Concept of PolicyEnforcement Points

# PolicySets in context of RHACM-Governance



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# Demo PolicySets

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# Backup-Restore



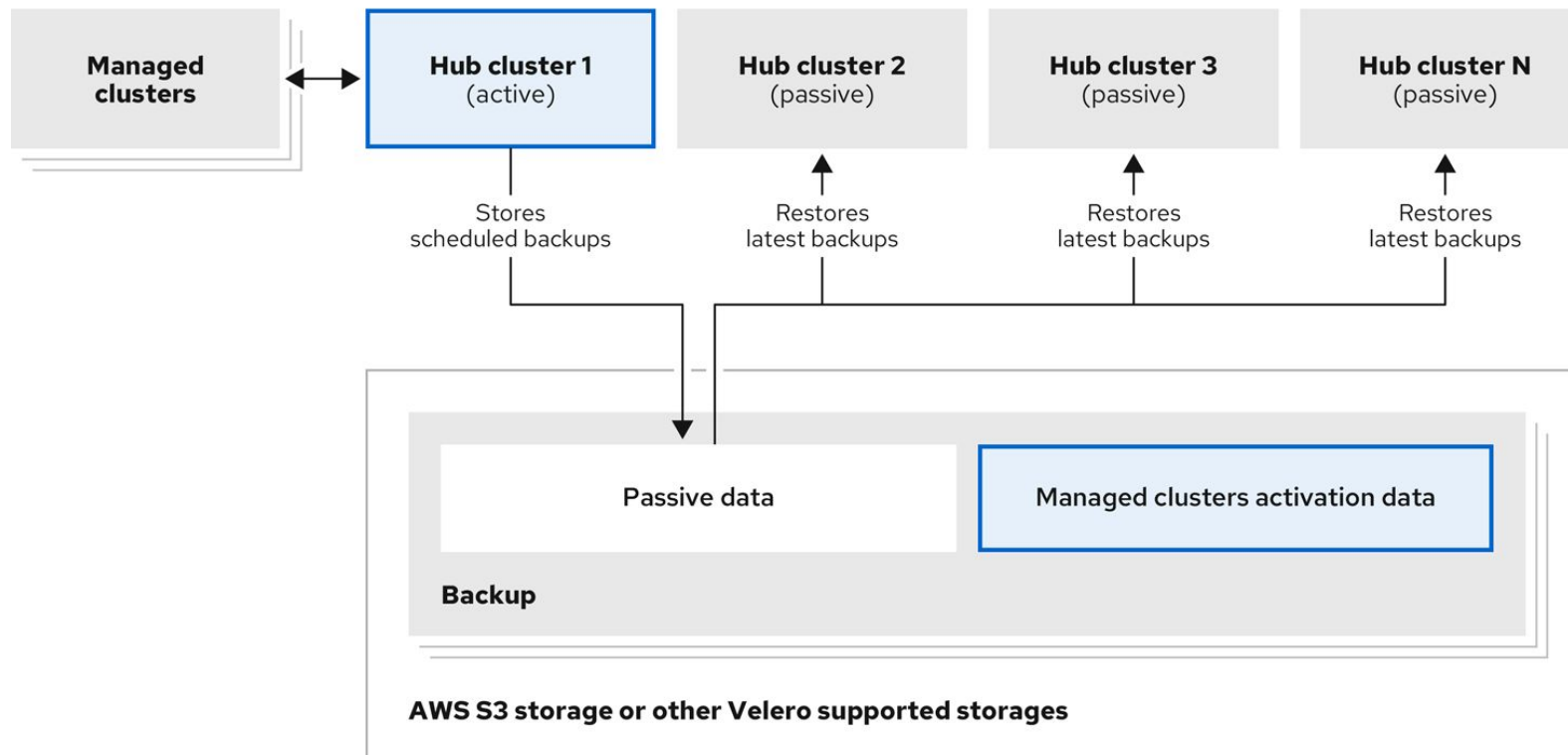
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# Key features/Business Value

- This component reached GA in RHACM 2.5
- Documentation (official doc and blog coming soon!)
  - [https://github.com/stolostron/rhacm-docs/blob/2.5\\_stage/clusters/backup\\_and\\_restore.adoc](https://github.com/stolostron/rhacm-docs/blob/2.5_stage/clusters/backup_and_restore.adoc)
  - <https://github.com/open-cluster-management/cluster-backup-operator#cluster-backup-operator>
- Backup and Restore component available with Red Hat Advanced Cluster Management provides a disaster recovery solution for recovering the hub cluster in the case the hub goes down.
- The Backup and Restore component installs a Policy which automatically reports when the backup solution is not functioning as expected even if the main hub is active and managing the clusters. This avoids the situation when backup data may not be available when the disaster hits and the main hub becomes unavailable.

# Active Passive Hub Design – **new in 2.5**

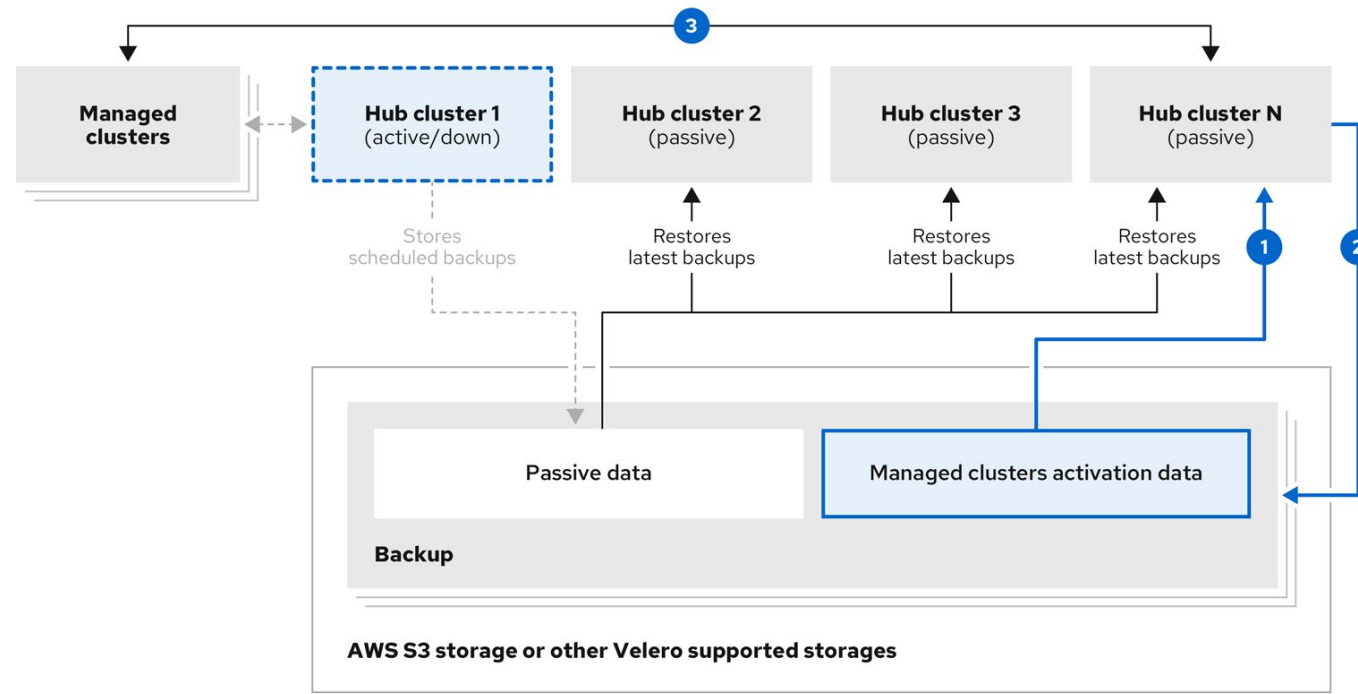
- ▶ The active hub manages the remote clusters and backs up hub data at regular intervals.
- ▶ The passive hubs restore this data, except for the managed clusters activation data, which would move the managed clusters to the passive hub. The passive hubs can restore the passive data continuously, or as a one time operation.





# Hub Disaster Recovery Design – new in 2.5

- ▶ When the primary hub goes down, one of the passive hubs is chosen by the admin to take over the managed clusters. In the image below, the admin decides to use Hub N as the new primary hub.
- ▶ Hub N restores the Managed Cluster activation data. At this point, the managed clusters connect with Hub N.
- ▶ The admin starts a backup on the new primary Hub N by creating a BackupSchedule resource.



- 1 Activates hub cluster N  
Restores managed clusters activation data
- 2 Becomes active  
Stores scheduled backups
- 3 Managed clusters connect to new hub N

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# Demo Backup-Restore



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# Submariner



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# Robust. Proven. Award winning.

## End-to-end automation with Red Hat Ansible Automation Platform integration



Multicloud lifecycle management



Policy driven governance, risk, and compliance



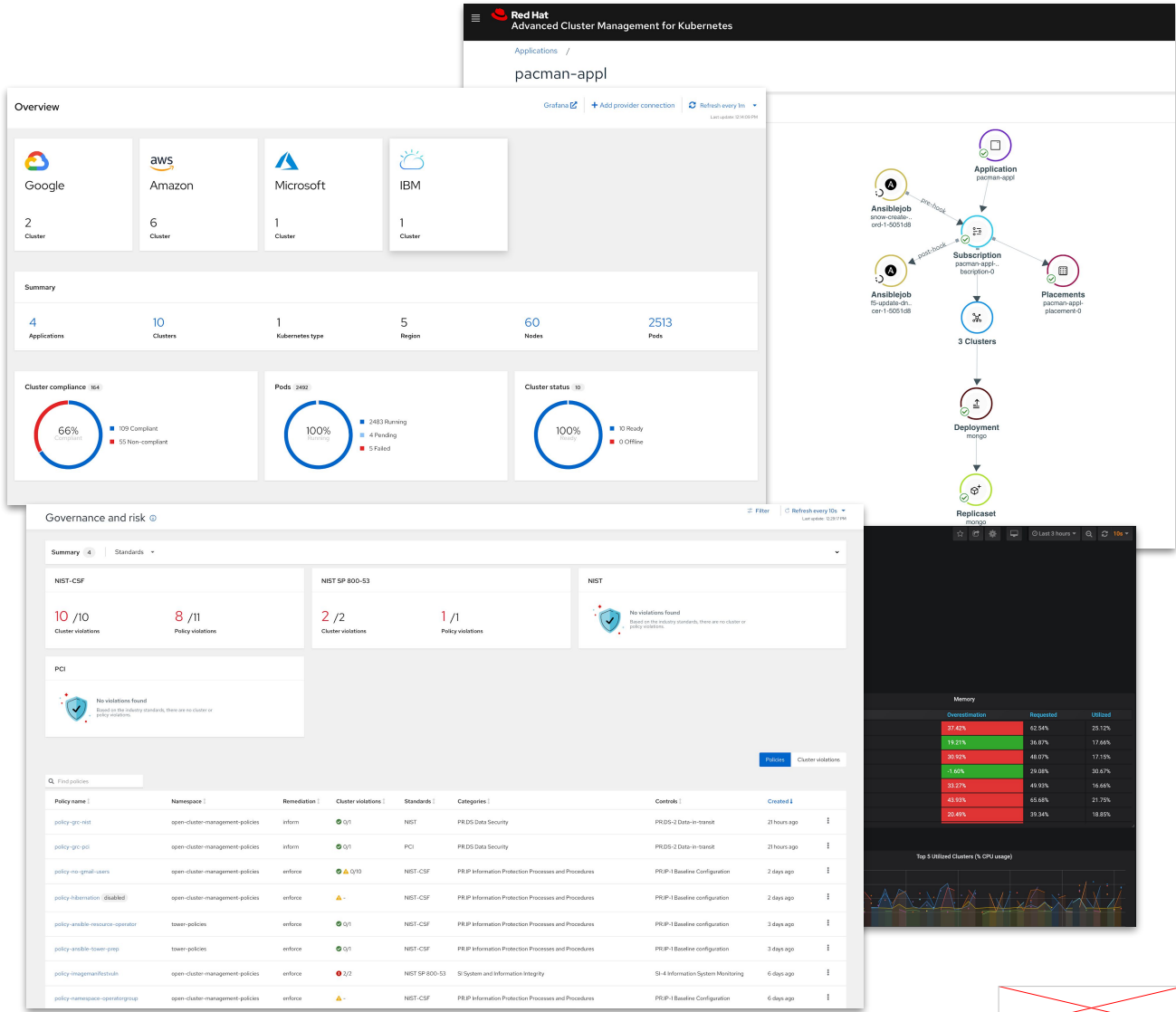
Advanced application lifecycle management



Multicloud observability for health and optimization



Multicloud networking for interconnecting



## Reasons for deploying clusters



Application  
availability



Reduced  
latency



Address industry  
standards



Geopolitical data  
residency guidelines



Disaster  
recovery



Edge  
deployments



CapEx  
cost reduction



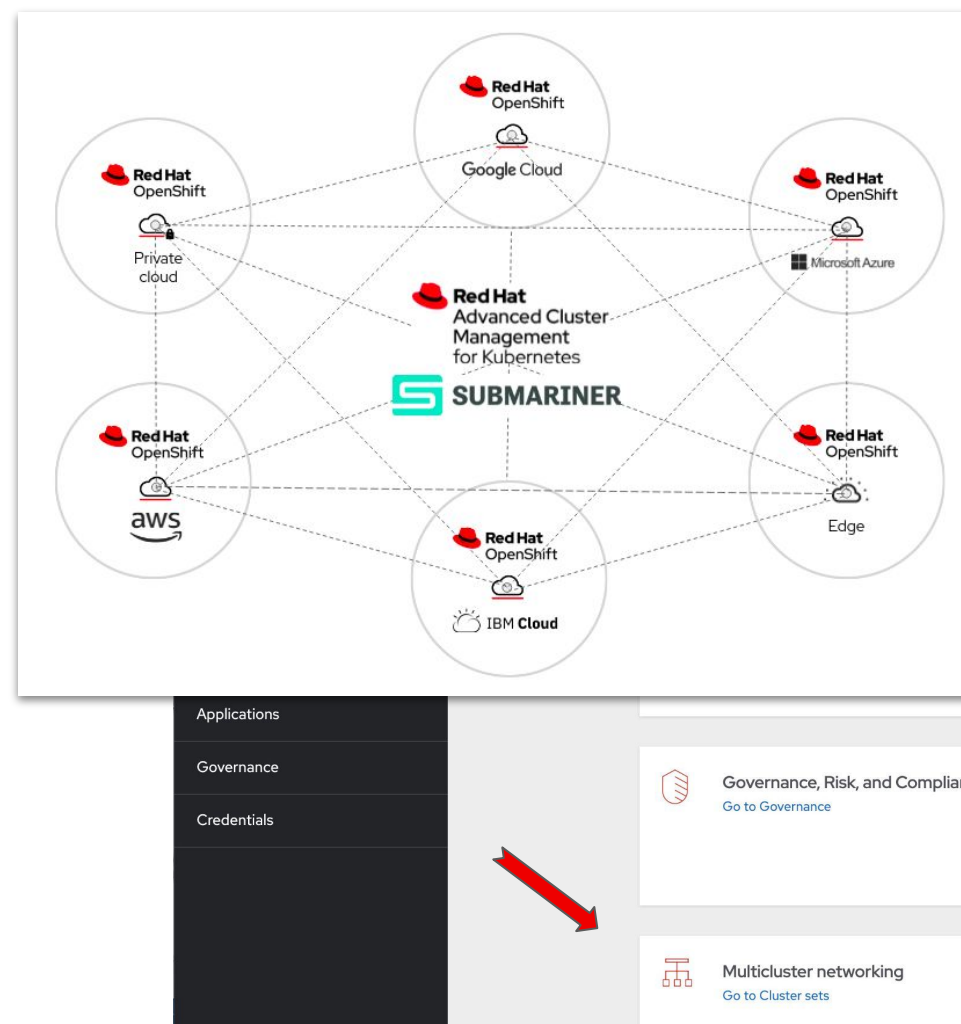
Avoid vendor  
lock-in

# Multicluster Networking

MCN features overview & look ahead

## • Multicluster Networking

- Presenting **Submariner**: an CNCF open source project in the form of an **add-on** for RHACM
- 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
- Makes use of **Multi-cluster Services-API**



View system alerts, critical application metrics, and overall system health. Search, identify, and resolve issues that are impacting distributed workloads using an operational dashboard designed for Site Reliability Engineers (SREs).

Create, update, scale, and remove clusters reliably, consistently using an open source programming model that supports and encourages Infrastructure as Code best practices and design principles.

Define a business application using open standards and deploy the applications using placement policies that are integrated into existing CI/CD pipelines and governance controls.

 **Governance, Risk, and Compliance**  
[Go to Governance](#)

Use policies to automatically configure and maintain consistency of security controls required by industry or other corporate standards. Prevent unintentional or malicious configuration drift that might expose unwanted and unnecessary threat vectors.

 **Multicluster networking**  
[Go to Cluster sets](#)

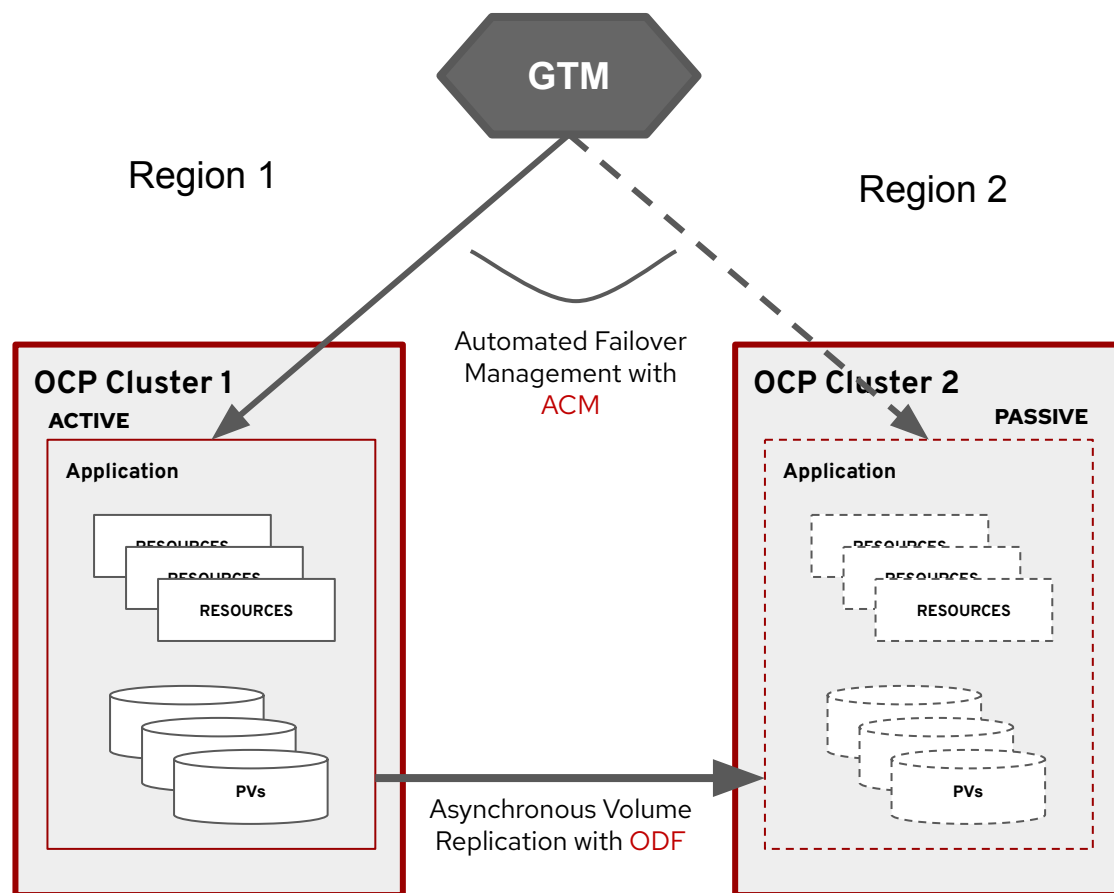
Enable direct networking connection between different on-premises or cloud-hosted Kubernetes clusters by grouping them in cluster sets and enabling the Submariner add-on.

# RHACM 2.5

## Other highlights

# ODF 4.10 and ACM 2.5 - Regional-DR with Failover Automation (TP)

## Protection against Geographic Scale Disasters



- ▶ Asynchronous Volume Replication => low RPO
  - ODF enables cross cluster replication of data volumes with replication intervals as low as 1 min
  - ODF Storage operators synchronizes both App data PVs and Cluster metadata
- ▶ Automated Failover Management => low RTO
  - ACM Multi-Cluster manager enables failover and failback automation at application granularity
- ▶ Both clusters remain active with Apps distributed and protected among them

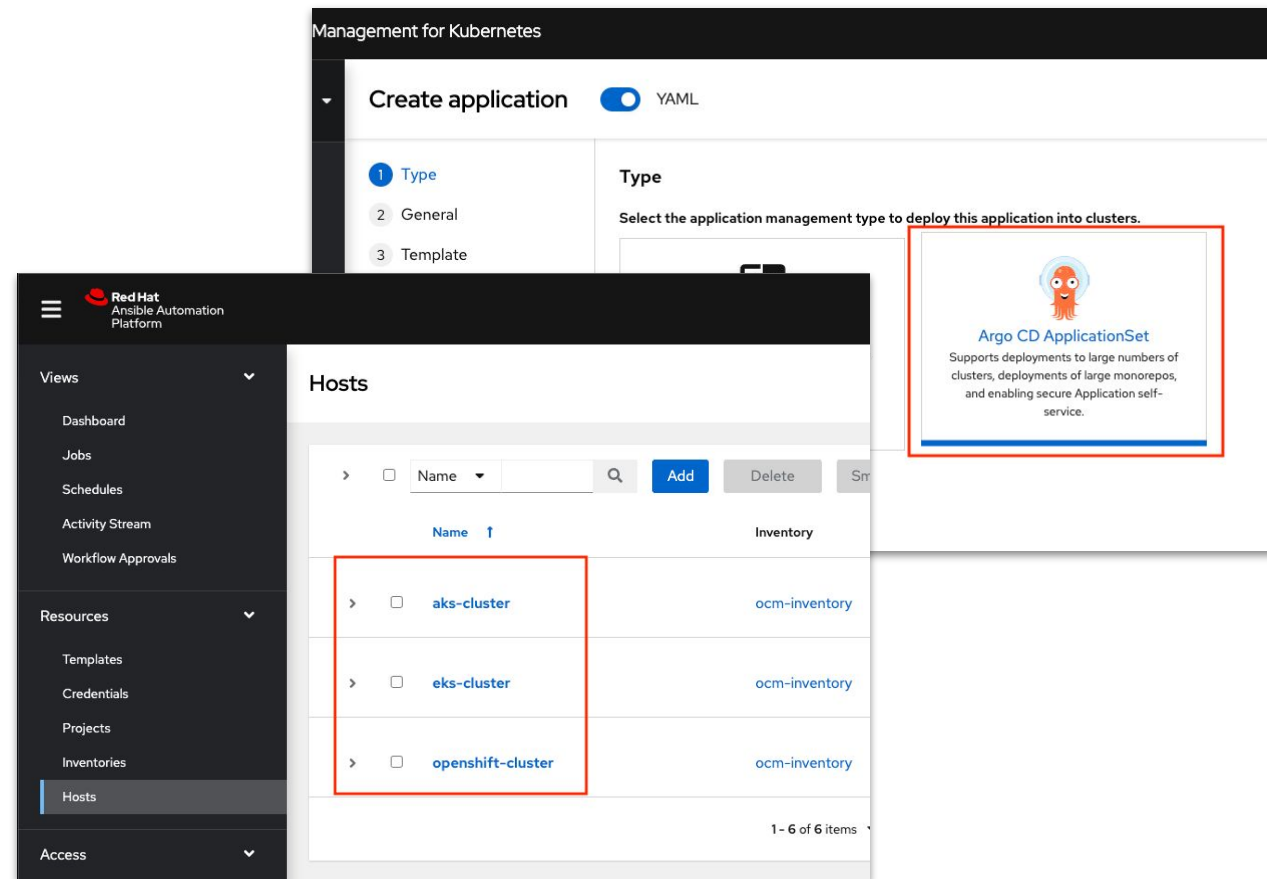


# Red Hat Advanced Cluster Management for Kubernetes

## What's new in RHACM 2.5

### Better Together

Red Hat Advanced Cluster Management brings together Ansible and OpenShift Platform Plus, including OpenShift GitOps, Red Hat Advanced Cluster Security, Red Hat OpenShift Data Foundation across cloud vendors all from a single-pane of glass.



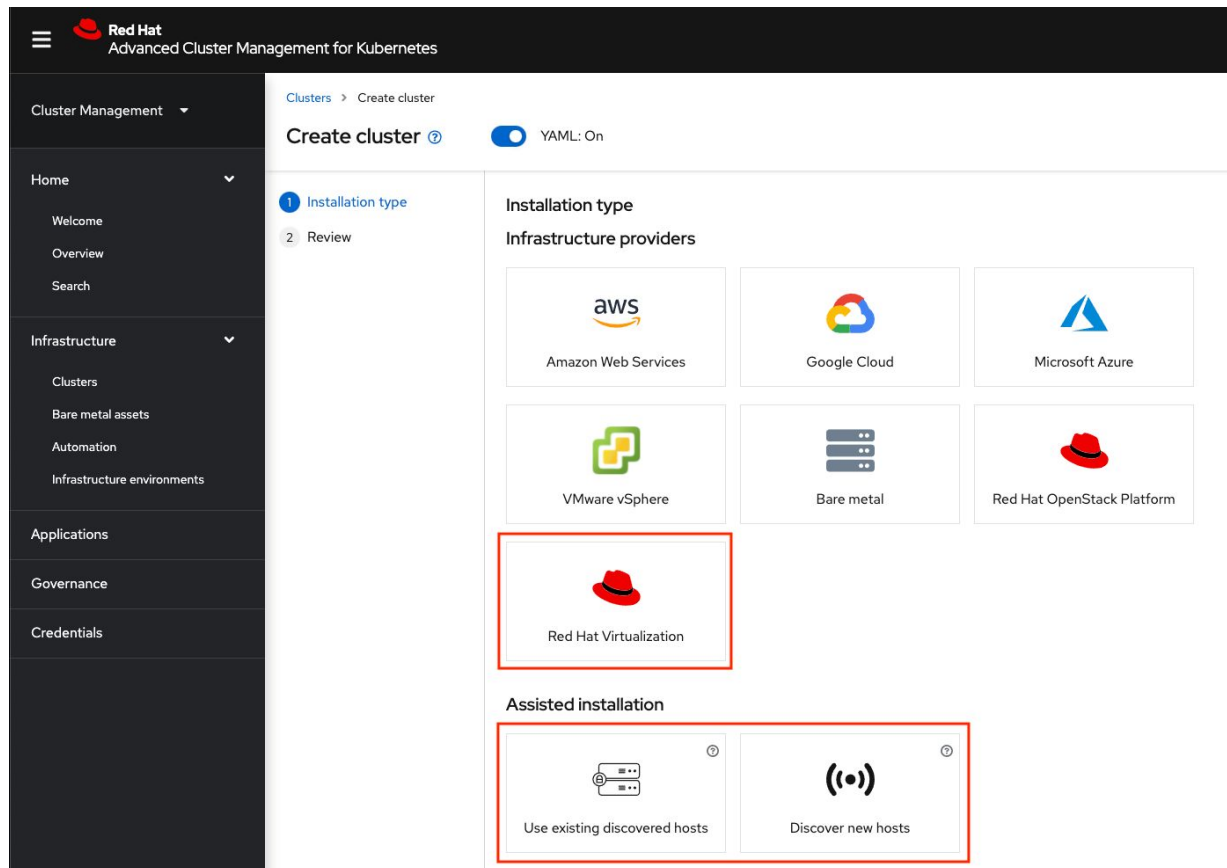
- ▶ **RHACM cluster inventory available in Ansible Automation Platform (Dev Preview):** Access ACM functionality, such as cluster creation, directly from Ansible Automation Platform using the Ansible collections.
- ▶ **Support for OpenShift GitOps ApplicationSets:** Easily create ArgoCD ApplicationSets directly from RHACM.

# Red Hat Advanced Cluster Management for Kubernetes

## What's new in RHACM 2.5

## Manage OpenShift Everywhere

Meeting the needs of customers across all sectors, whether on premise with Red Hat Virtualization, bare metal, or in the cloud with AWS GovCloud (US).



- ▶ **Cluster lifecycle:** New provider support for OCP on Red Hat Virtualization and AWS GovCloud (US).
- ▶ **Arm architecture (Tech Preview):** Deploy an ACM hub on Arm, as well as import and manage OpenShift clusters leveraging Arm for low power consumption.
- ▶ **HyperShift (Tech Preview):** Host and provision containerized OpenShift control planes at scale, reducing cost, hardware footprint, and time to provision.
- ▶ **Central Infrastructure Management (GA):** Provides a self-service model that easily allows infrastructure owners to enable developers access to bare metal hosts for OCP cluster provisioning.

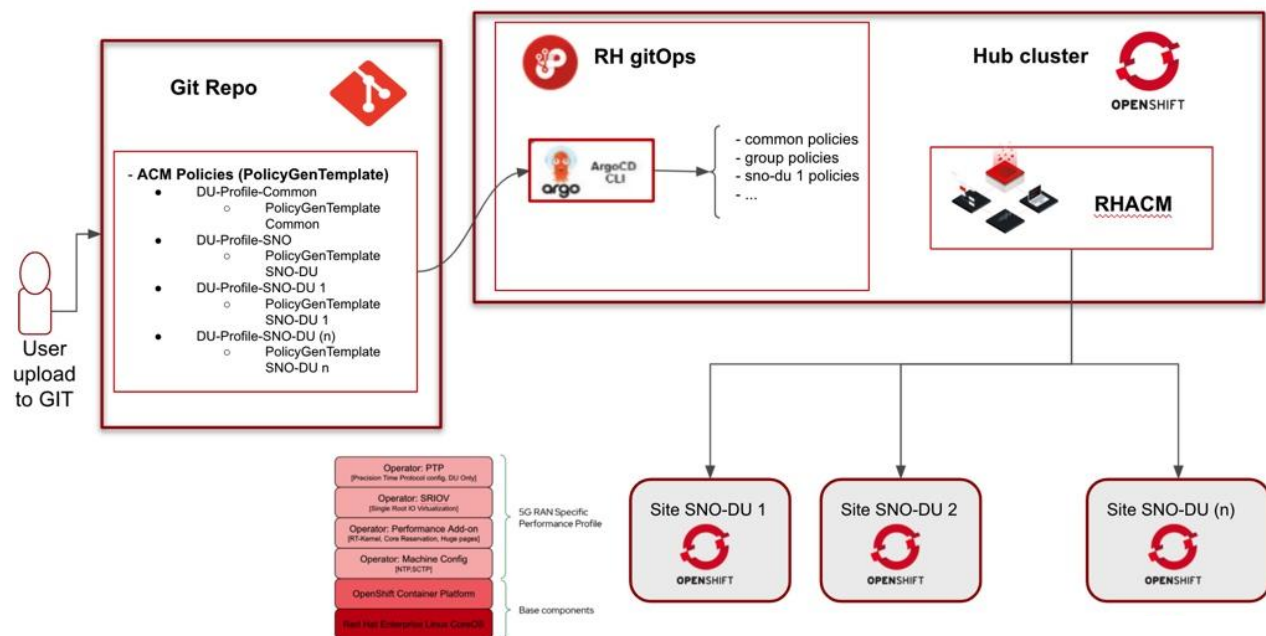


# Red Hat Advanced Cluster Management for Kubernetes

## What's new in RHACM 2.5

### Manage At the Edge

At Red Hat, we see edge computing as an opportunity to extend the open hybrid cloud all the way to the data sources and end users. Edge is a strategy to deliver insights and experiences at the moment they're needed.



- **Deploy & manage 2000 SNO (GA):** Support DU profile delivery with ACM in IPv6 connected and disconnected scenarios.
- **Export hub collected metrics to external tools:** Operations teams can integrate metrics collected from their Kubernetes clusters with metrics collected from other IT sources for a holistic view in their preferred tooling.

# Reach us on Slack!

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Have questions  
or feedback  
for the ACM  
Product  
Management  
team?



CoreOS Slack  
#forum-acm  
@acm-pm-team

# Thank you

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