

## Red Hat in azione: il GitOps nell'open hybrid multicloud

Come gestire e automatizzare le architetture ibride full ed edge con OpenShift GitOps e Ansible

Christian Marangoni Rinaldo Bergamini Solution Architects

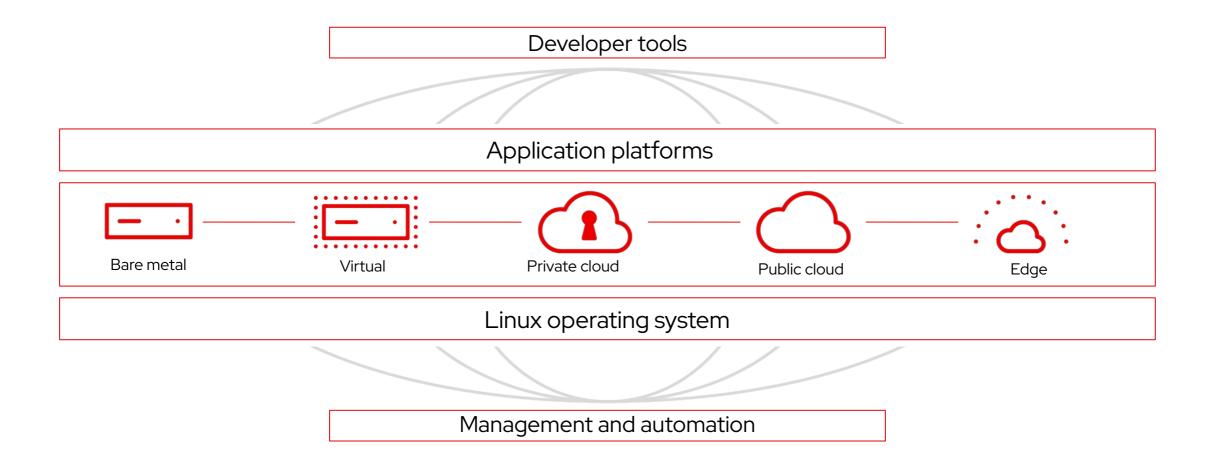


# Agenda

- Accelerating multi cluster management with Advanced Cluster Management for Kubernetes
- Application lifecycle management with GitOps
- Extending GitOps with Ansible Automation



## Evolution to hybrid multi cluster



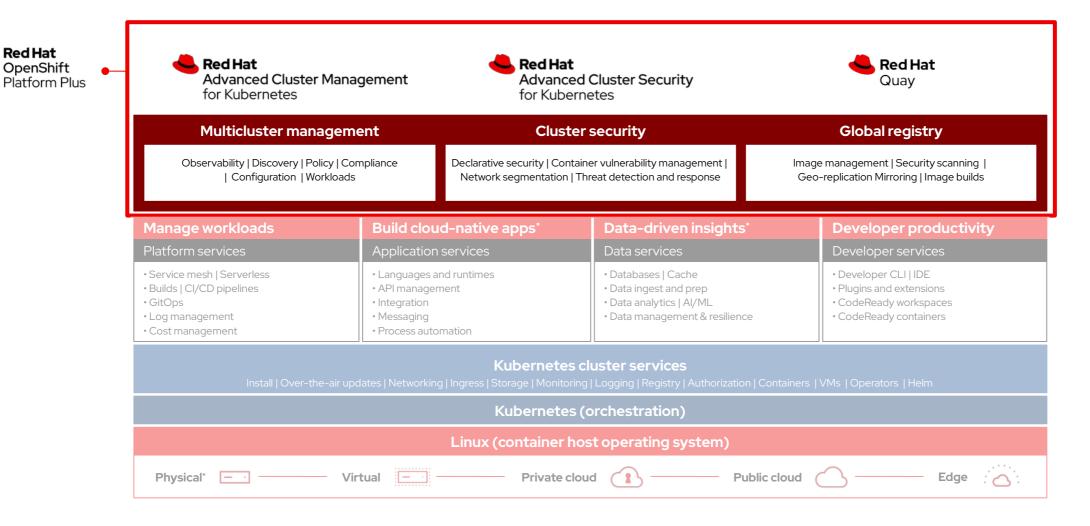


## Red Hat OpenShift

Manage workloads	Build cloud-native apps*	Data-driven insights*	Developer productivity
Platform services	Application services	Data services	Developer services
<ul> <li>Service mesh</li> <li>Serverless</li> <li>Builds</li> <li>CI/CD pipelines</li> <li>GitOps</li> <li>Log management</li> <li>Cost management</li> </ul>	<ul> <li>Languages and runtimes</li> <li>API management</li> <li>Integration</li> <li>Messaging</li> <li>Process automation</li> </ul>	<ul> <li>Databases   Cache</li> <li>Data ingest and prep</li> <li>Data analytics   Al/ML</li> <li>Data management &amp; resilience</li> </ul>	<ul> <li>Developer CLI   IDE</li> <li>Plugins and extensions</li> <li>CodeReady workspaces</li> <li>CodeReady containers</li> </ul>
Kubernetes cluster services  Install   Over-the-air updates   Networking   Ingress   Storage   Monitoring   Logging   Registry   Authorization   Containers   VMs   Operators   Helm			
Linux (container host operating system)			
Physical* - Virtual - Private cloud - Public cloud - Edge			



### Red Hat OpenShift Platform Plus





<sup>\*</sup> Red Hat OpenShift® includes supported runtimes for popular languages/frameworks/databases. Additional capabilities listed are from the Red Hat Application Services and Red Hat Data Services portfolios.

## Red Hat Advanced Cluster Management for Kubernetes



Multicluster life-cycle management



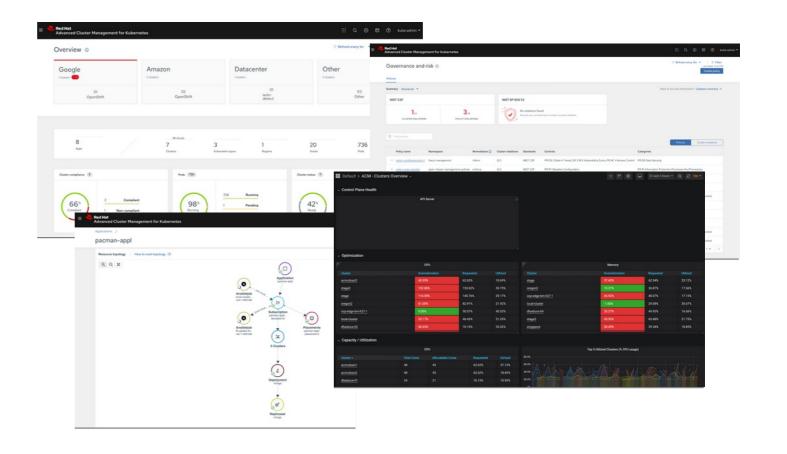
Policy-driven governance, risk, and compliance



Advanced application life-cycle management



Multicluster observability for health and optimization

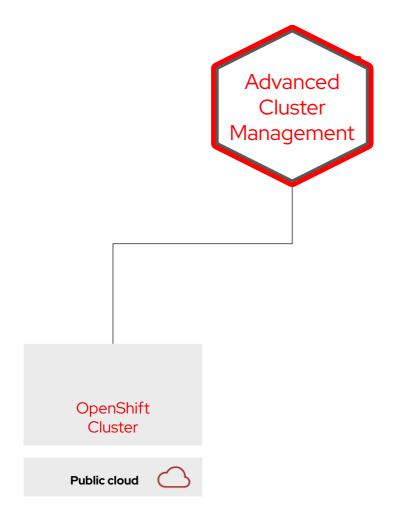






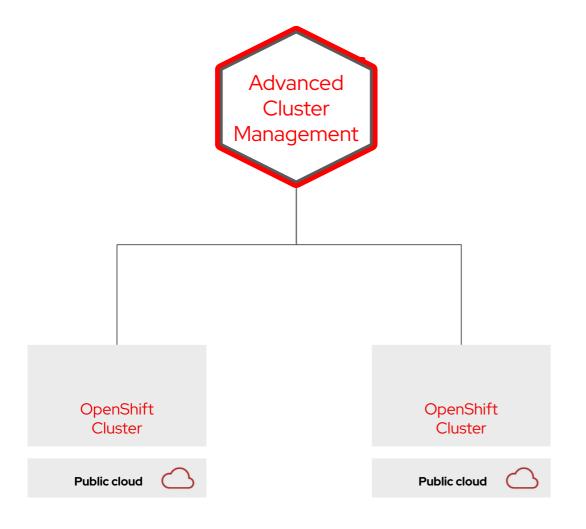
- Advanced Cluster Manager is deployed in the **Hub Cluster**
- **Multi cloud** management pattern
- Single pane of glass





 The first managed cluster was already deployed on a cloud





- We're adding **another** cluster
- Fully automated installation
- Platform of **choice** for automated installations (AWS, Azure, Google Cloud, VMware, bare metal, OpenStack)

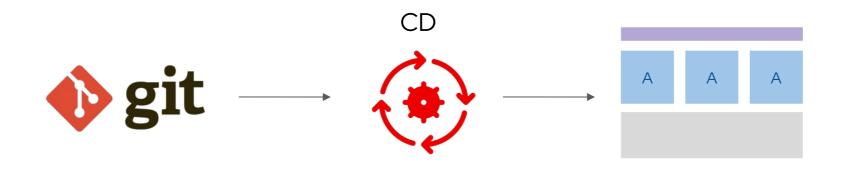


# Application lifecycle management with GitOps



## **GitOps Workflow**

a declarative approach to application delivery



What you want (desired state)

What you have (current state)





## OpenShift GitOps



## Hybrid -Multi-cluster config management

Enables teams to adopt GitOps principles across hybrid multicluster Kubernetes environments



## Automated Argo CD install and upgrade

Automated install, configurations and upgrade of Argo CD through OperatorHub



## Synchronizes cluster state with git repos

Works with a variety of Kubernetes deployment tools including: Helm, Kustomize, Directories of YAML files, Ksonnet/Jsonnet

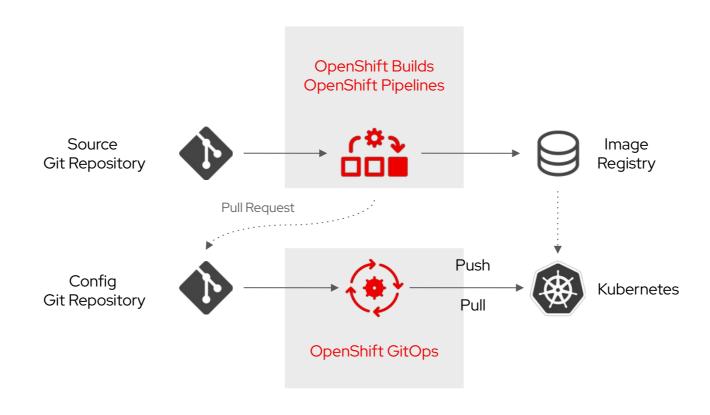


# Easily deploy applications in a declarative way

Assists customers to establish an end-to-end application delivery workflow on GitOps principles

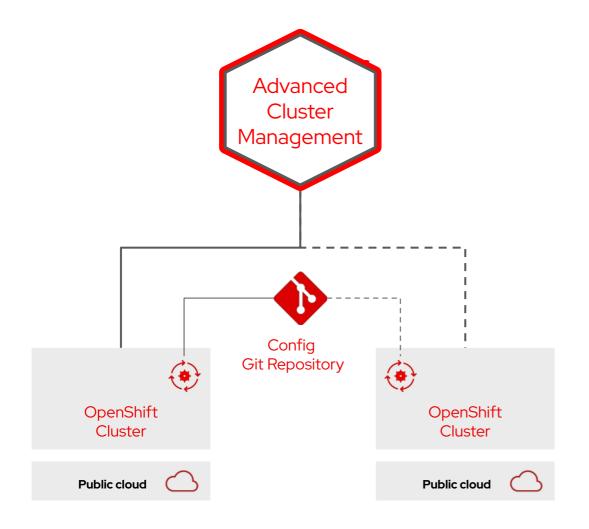


## The GitOps Application Delivery Model on OpenShift









- Advanced Cluster Management performs basic cluster configuration and installs OpenShift GitOps via the Operator
- Openshift GitOps syncs the apps on the cluster according to the Git repository

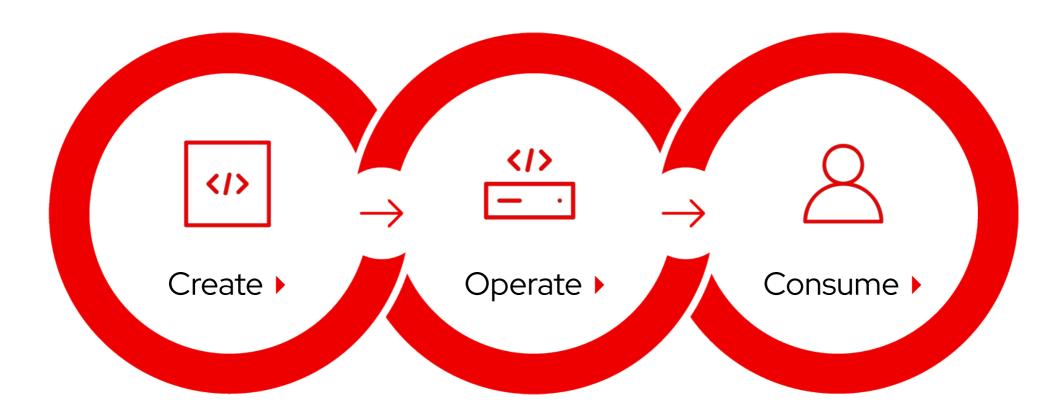


# Extending GitOps with Ansible Automation





#### Holistic automation for your enterprise









# Ansible Automation Controller

Ansible Tower
Evolution

OpenShift Ready

Multisite automation

## Evolving the automation platform



# Automation execution environments

Containerized automation environments

Portable

Customizable



## **Ansible Content Collections**

90+ certified content collections

Jointly supported with vendors



#### Private Automation Hub

Hosting of private content collections

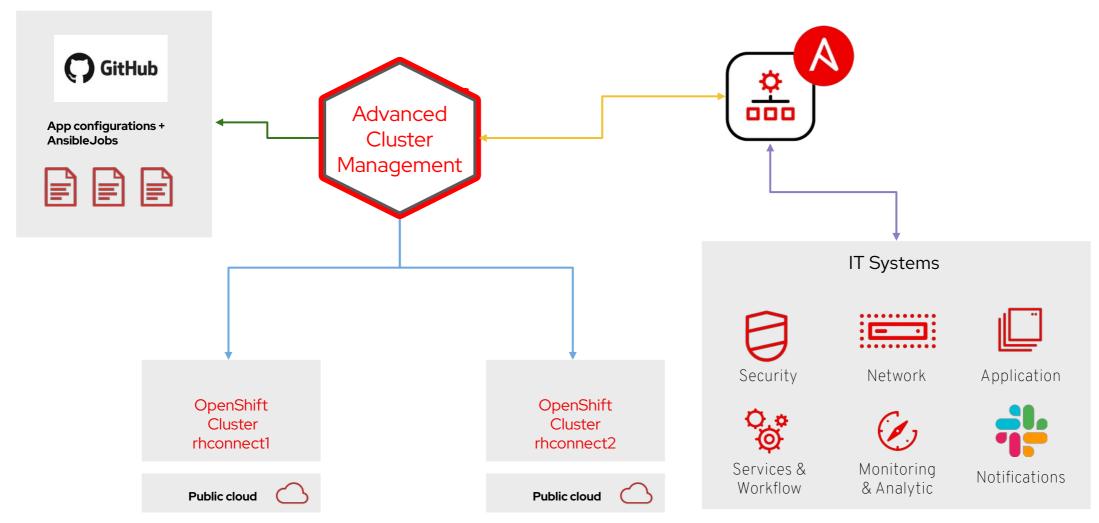
Execution environments registry



## Integration with ACM

End to end automation pre and post hooks to integrate with systems outside OpenShift

#### ACM + Ansible Automation Platform





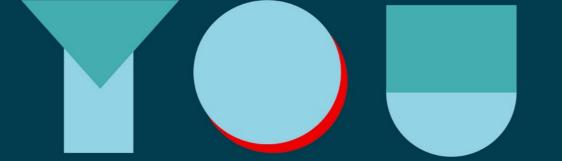
# Recap and Benefits

- ▶ E2E Automation is key to reduce **human error**
- Maximize uptime and provide better SLAs
- Speed up recovery
- Add new infrastructure providers
- ▶ Reduce lock-in
- Single pane of glass management
- ▶ Easily address **new** business **needs**









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