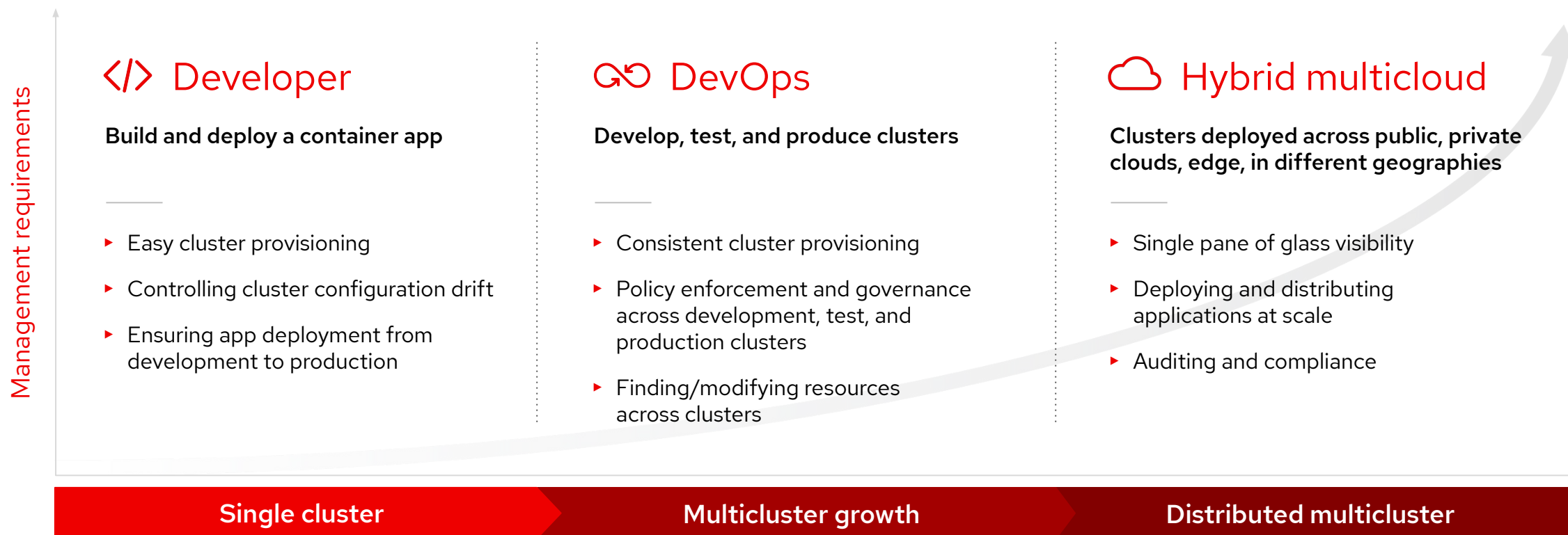




Red Hat Advanced Cluster Management for Kubernetes

Multicloud management challenges

How do I normalize and centralize key functions across environments?



Robust. Proven. Award winning.



Multicluster lifecycle management



Policy driven governance, risk, and compliance



Advanced application lifecycle management



Multicluster observability for health and optimization

Red Hat Advanced Cluster Management for Kubernetes

Overview

Google 1 cluster OpenShift

Amazon 2 clusters

Control Plane Health

API Server

Governance and risk

Summary Standards

NIST CSF 1 CLUSTER VIOLATIONS 3 POLICY VIOLATIONS

NIST SP 800-53 No violations found

Policy name	Namespace	Remediation	Cluster violations	Standards	Controls	Categories
policy-certificates	fraud-management	inform	0/3	NIST CSF	PR DS 2 Data In Transit, DE CM 8 Vulnerability Scans, PR AC 4 Access Control	PR DS Data Security
policy-auth-connector	open-cluster-management-policies	enforce	0/3	NIST CSF	PR IP 1 Baseline Configuration	PR IP Information Protection Processes And Procedures
policy-certificates	open-cluster-management-policies	enforce	0/3	NIST CSF	PR DS 2 Data In Transit	PR DS Data Security
policy-console	open-cluster-management-policies	enforce	0/3	NIST CSF	PR IP 1 Baseline Configuration	PR IP Information Protection Processes And Procedures
policy-identity	open-cluster-management-policies	inform	1/1	NIST CSF	PR AC 4 Access Control	PR AC Identity Management Authentication And Access Control
policy-logging	open-cluster-management-policies	enforce	0/1	NIST SP 800-53	SI 4 Information System Monitoring	SI System And Information Integrity
policy-namespaces	open-cluster-management-policies	enforce	0/0	NIST CSF	PR IP 1 Baseline Configuration	PR IP Information Protection Processes And Procedures
policy-roles	open-cluster-management-policies	enforce	0/2	NIST CSF	PR IP 1 Baseline Configuration	PR IP Information Protection Processes And Procedures
policy-roles	open-cluster-management-policies	inform	1/1	NIST CSF	PR AC 4 Access Control	PR AC Identity Management Authentication And Access Control
policy-roles	open-cluster-management-policies	inform	1/1	NIST CSF	PR AC 4 Access Control	PR AC Identity Management Authentication And Access Control

Applications / pacman-appl

Resource topology

How to read top

Subscription pacman-appl-0

3 Clusters

Deployment mongo

Replicaset mongo

Red Hat Advanced Cluster Management for Kubernetes



Manage OpenShift Everywhere

- OCP cluster provision with Cloud, Bare Metal and vSphere providers



Multi-cluster Observability

- Cluster health monitoring with scalable Thanos based architecture



Enhanced Application and Policy Mgmt

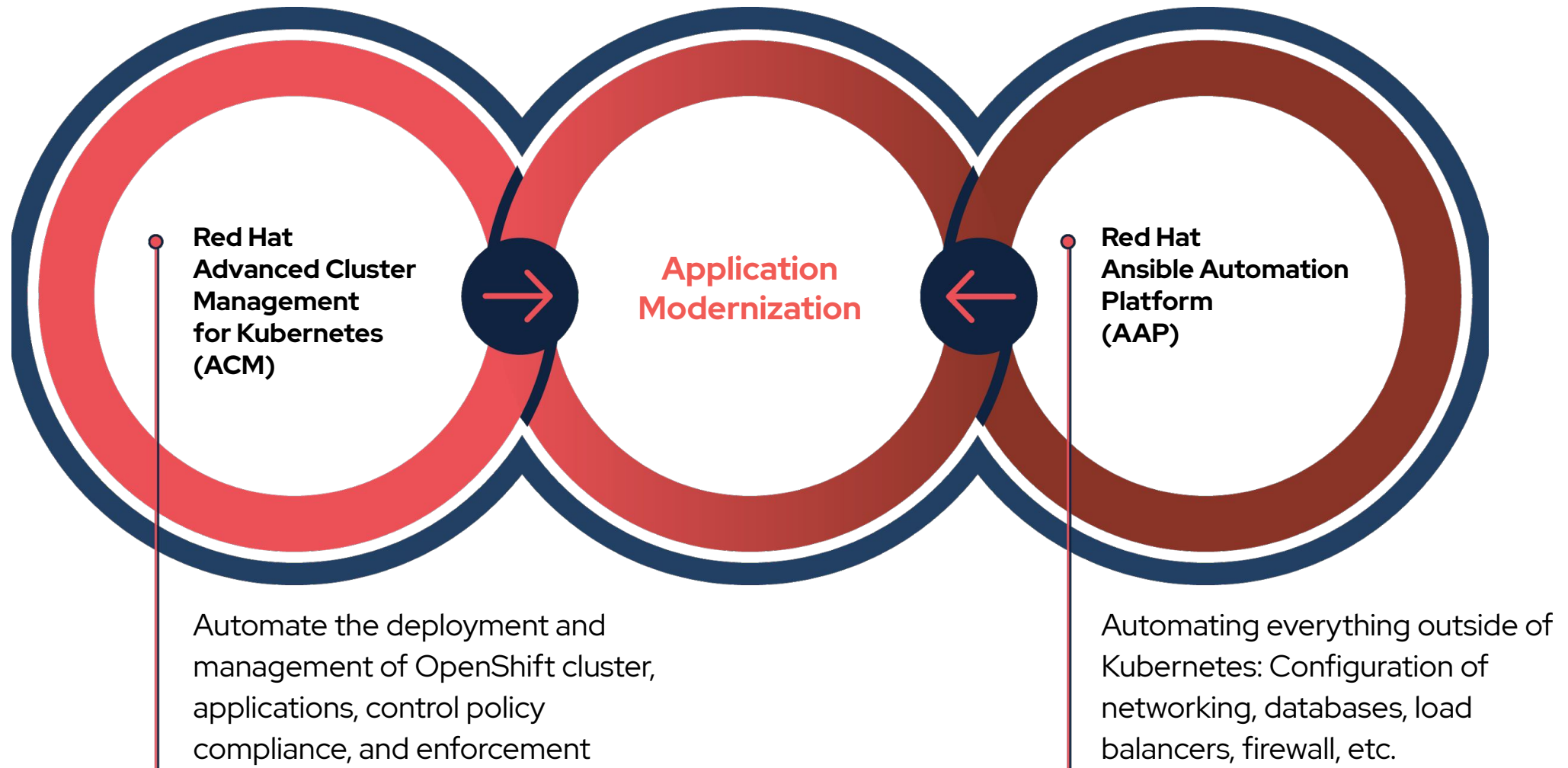
- Simplified App Creation experience
- Open Source Repo for Policies
- More OOTB Security Policies
- Open Policy Agent (OPA) support



Better Together

- Extend Automation with Ansible
- Partner and EcoSystem expansion

Application modernization driven by Automation of Kubernetes and beyond....

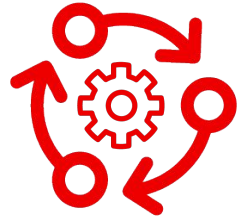




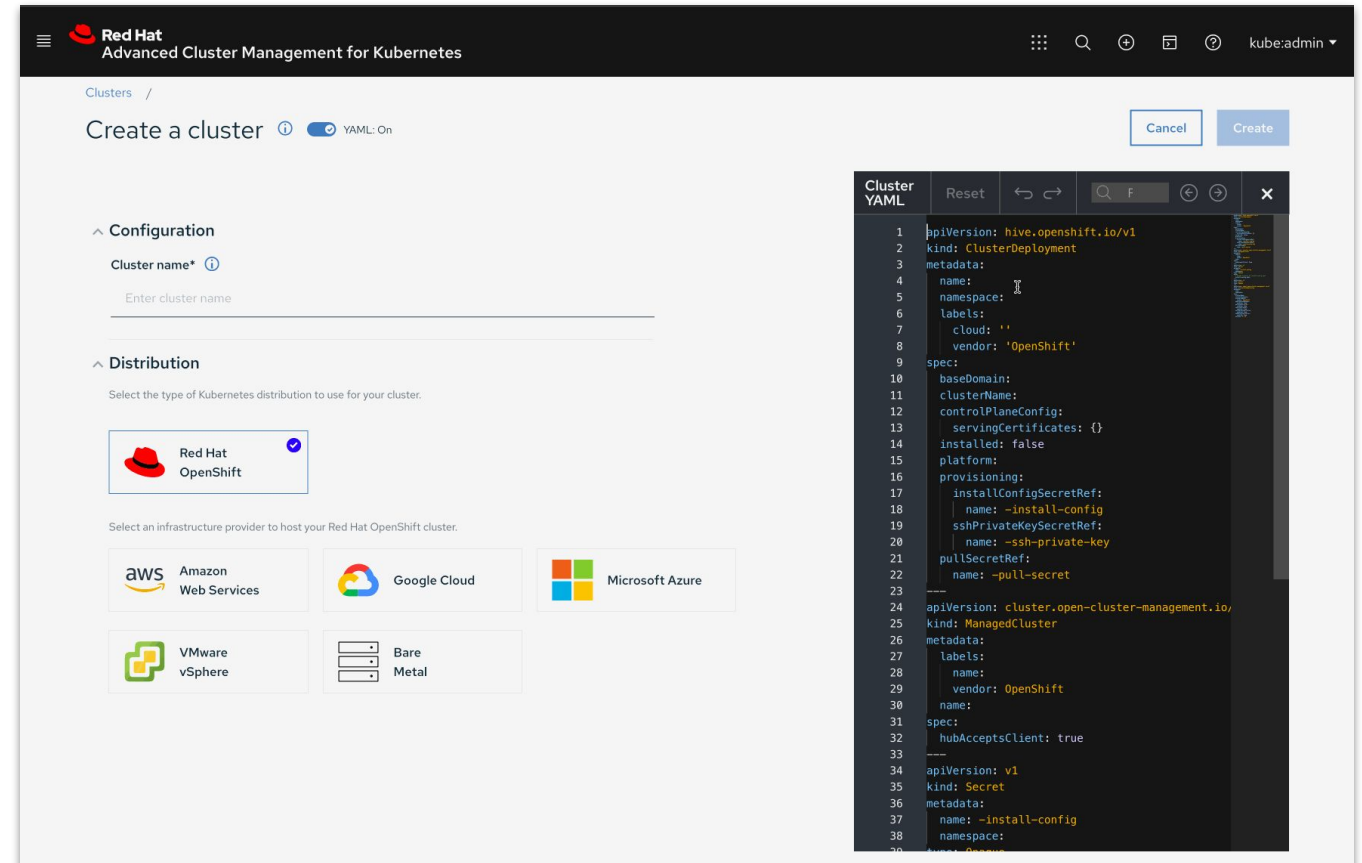
More technical

Manage OpenShift Anywhere

Overview



- OCP Cluster Lifecycle Management:
 - Provision new OCP 4.4.x - 4.6.x
 - Manage existing OCP 3.11, 4.4.x - 4.6.x
- Public cloud managed kubernetes: EKS, AKS, GKE, IKS, ROKS
 - Search, find and modify kubernetes resources.
 - Deploy applications, across clusters
 - Define security policy, compliance and violations
- Provision OCP to **Bare Metal** and **vSphere**
 - More opportunity to mix clouds (public / private)



Multi-Cluster Observability

Overview



- Global Query view with **Grafana**
 - Out of the Box multi cluster health monitoring dashboards
 - PromQL compliant - Build your own queries
- Centralized **Database**
 - Optimized set of metrics collected from managed clusters
 - Focused on Cluster Management
- Unlimited **Data Retention**
 - Observe Metric trends
 - Set Alert Patterns
 - Supported Object Storage
 - AWS S3 (and compatible)
 - Ceph for on-premise
 - Google Cloud Storage
 - Azure Storage

Clusters	Status	Version	Provider	Nodes
staged	Detached	-	-	-
cstark-openshift46	Offline	OpenShift 4.6.0-rc.2	cloud=Amazon +4	6
sberens-azure	Offline	-	cloud=Azure +2	-
spoke50-gke2	Offline	v1.16.13-gke.401	cloud=Google vendor=GKE +1	3
acmcdon1	Ready	OpenShift 4.5.2(Upgrade available)	cloud=OpenStack +5	6
acmcdon2	Ready	OpenShift 4.5.2(Upgrade available)	cloud=OpenStack +5	6
dhaiduce-01	Ready	OpenShift 4.3.38	cloud=Amazon +6	6
dhaiduce-02	Ready	OpenShift 4.3.33(Upgrade available)	cloud=Amazon +6	6
dhaiduce-03	Ready	OpenShift 4.5.11(Upgrade available)	cloud=Amazon +6	6
dhaiduce-04	Ready	OpenShift 4.4.23(Upgrade available)	cloud=Amazon +6	6
dhaiduce-eks-eu-central-1	Ready	v1.14.9-eks-658790	cloud=Amazon vendor=EKS +3	3
dhaiduce-eks-eu-north-1	Ready	v1.14.9-eks-658790	cloud=Amazon vendor=EKS +2	3
dhaiduce-eks-eu-west-1	Ready	v1.14.9-eks-658790	cloud=Amazon vendor=EKS +2	3
dhaiduce-eks-eu-west-2	Ready	v1.14.9-eks-658790	cloud=Amazon vendor=EKS +3	3
dhaiduce-eks-eu-west-3	Ready	v1.14.9-eks-658790	cloud=Amazon vendor=EKS +3	3
installer-test	Ready	OpenShift 4.5.5(Upgrade available)	cloud=Amazon +5	6
local-cluster	Ready	OpenShift 4.5.11(Upgrade available)	cloud=Amazon +5	6
lubbock	Ready	OpenShift 4.5.8(Upgrade available)	cloud=Amazon +4	6
oregon2	Ready	OpenShift 4.4.26(Upgrade available)	cloud=Amazon +4	6
sberens-eks1	Ready	v1.15.11-eks-065dce	cloud=Amazon vendor=EKS +1	2

Application Enhancements

Overview



- Simplified User **Experience**
 - Step by Step allows you to build applications quickly
 - Deploy applications directly from repo leveraging Subscription and Channel
 - Direct Integration with GitHub / Helm / Object Storage
- Pre and Post Tasks with **Ansible** Tech preview
 - Interact with 3rd Party Systems and Infrastructure via playbooks
 - Eg, SNOW tickets, F5 load balancers and more
- **Timed** deployments
 - Schedule your application deployment when needed

A screenshot of the Red Hat Advanced Cluster Management for Kubernetes web interface. The page is titled 'Create an application' with a 'YAML OFF' toggle. It includes a 'Name*' field with a placeholder 'Enter name', a 'Namespace*' dropdown with a placeholder 'Enter namespace', and a section for 'Repository location for resources'. Under 'Repository types', there are three options: 'Git', 'Helm', and 'Object storage', each with an information icon. A link 'Add another repository' is at the bottom. The interface has a dark header with the Red Hat logo and navigation icons, and a light gray body.

Governance and Security Enhancements

Overview

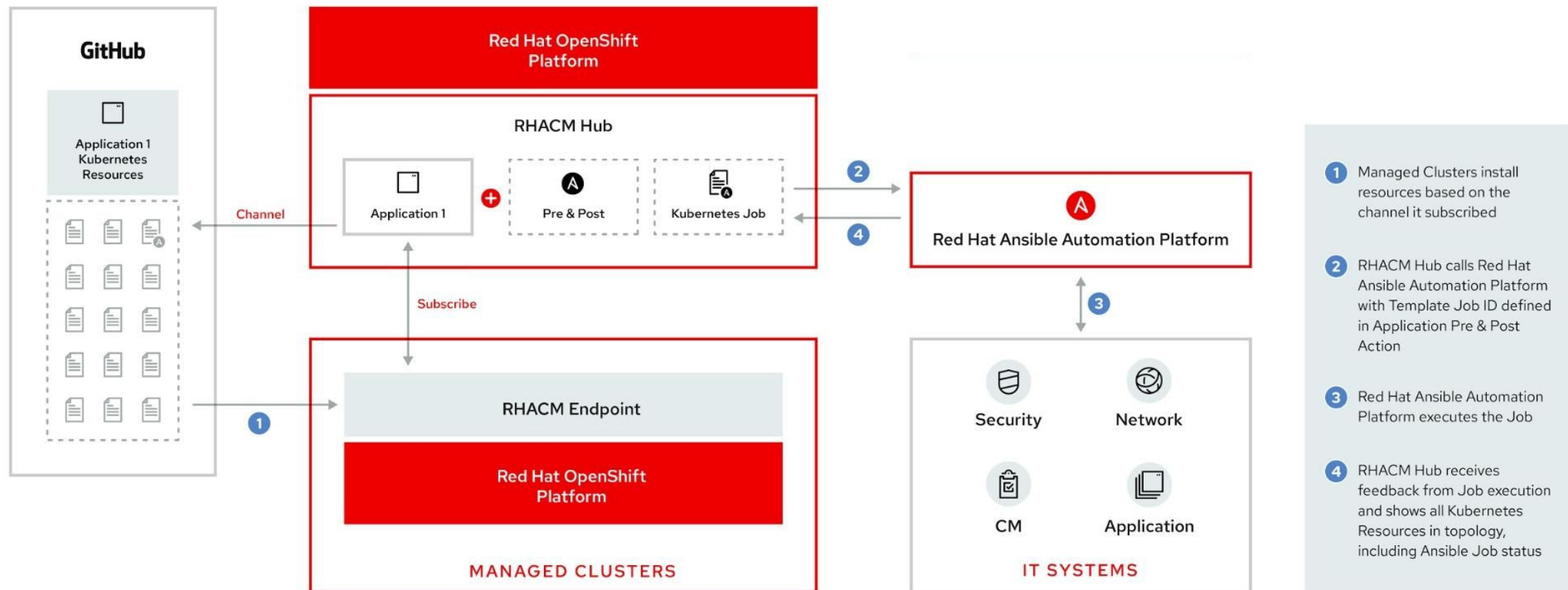


- Easier to Identify and **Troubleshoot**
 - Enhanced icons highlighting violations
 - RBAC enhancements
- Governance Enhancements
 - **OPA** integration - deploy **Gatekeeper** policies from RHACM, report violations on RHACM Hub for both admissions and audit scenarios
 - **Certificate** policy controller **enhancements** - disallow wildcard certs (SAN pattern matching that can be used for disallowing wild cards or other SAN restrictions), separate expiration time for CA issuers, certificate lifetime and CA lifetime
 - New **NIST-SP800-53** standards added

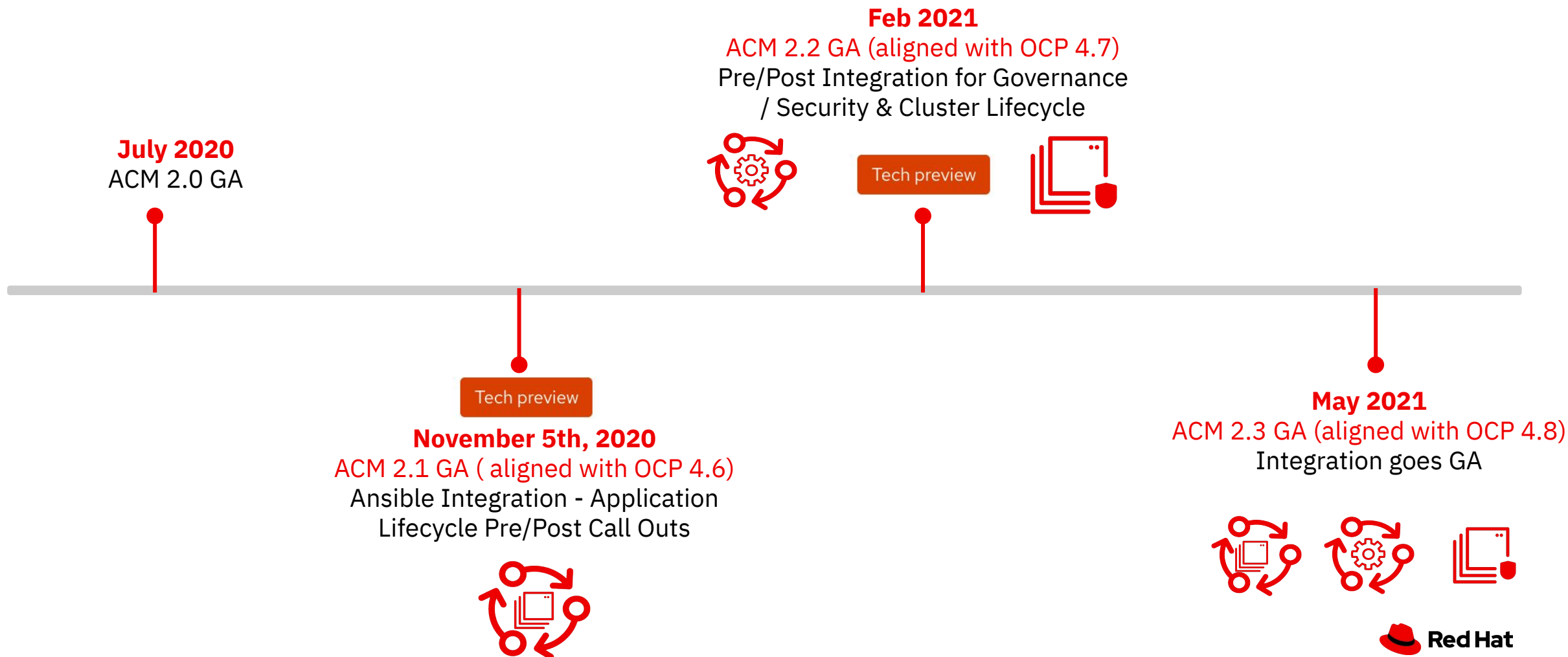
The screenshot displays the Red Hat Advanced Cluster Management for Kubernetes (RHACM) interface, specifically the 'Governance and risk' section. The dashboard provides a summary of policy violations for NIST CSF and NIST SP 800 53 standards. A table lists various policies, their namespaces, and their status, with a tooltip indicating that policy status is unavailable for some clusters.

Policy name	Namespace	Status	Violations	Standards	Categories	Controls
a-etcencryption-all	default	inform	18/20	NIST CSF	PR DS Data Security	PR DS 2 Data At Rest
a-nspolicy-all	default	inform	18/20	NIST CSF	PR IP Information Protection Processes And Procedures	PR IP 1 Baseline Configuration
a-sccpolicy-all	default	inform	18/20	NIST CSF	PR PT Protective Technology	PR PT 3 Least Functionality
policy-certificate	open-cluster-management-policy-collection	inform	0/11	NIST SP 800 53	SC System And Communications Protection	SC 8 Transmission Confidentiality And Integrity
policy-etcencryption	open-cluster-management-policy-collection	inform	-	NIST SP 800 53	CM Configuration Management	CM 2 Baseline Configuration
policy-imagemanifestvuln	open-cluster-management-policy-collection	inform	-	NIST SP 800 53	SI System And Information Integrity	SI 4 Information System Monitoring
policy-limitclusteradmin	open-cluster-management-policy-collection	inform	-	NIST SP 800 53	AC Access Control	AC 3 Access Enforcement
policy-limitmemory	open-cluster-management-policy-collection	inform	10/11	NIST SP 800 53	CM Configuration Management	CM 2 Baseline Configuration
policy-namespace	open-cluster-management-policy-collection	inform	8/11	NIST SP 800 53	CM Configuration Management	CM 2 Baseline Configuration
policy-pod	open-cluster-management-policy-collection	inform	10/11	NIST SP 800 53	CM Configuration Management	CM 2 Baseline Configuration

Architecture Overview for Application Lifecycle



ACM + Ansible Automation Platform Timeline



Thank you

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enterprise open source software solutions.
Award-winning support, training, and consulting
services make
Red Hat a trusted adviser to the Fortune 500.



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