Red Hat Summit

What's New from Summit 2020

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Great Lakes

Red Hat

SysAdmin Background

RHCE and Ansible Specialist

I Like Things that Go Fast

Love Craft Beer and Bourbon

Red Hat

Agenda

- At a Glance...
- The BIG Announcements
  - So Many Clusters, So Little Time...
  - I Still Have These VMs Though...
  - This is Awesome but What About Linux?
- The Not So Big Announcements
- In Case You Missed It...

At a Glance...

- **82,670** people registered
- **56,064** attended
- **118,000** unique total views
- **322,000** unique visits to all of the 2020 session content
- **13,859** people participated in our track chats

The BIG Announcements

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So Many Clusters, So Little Time...

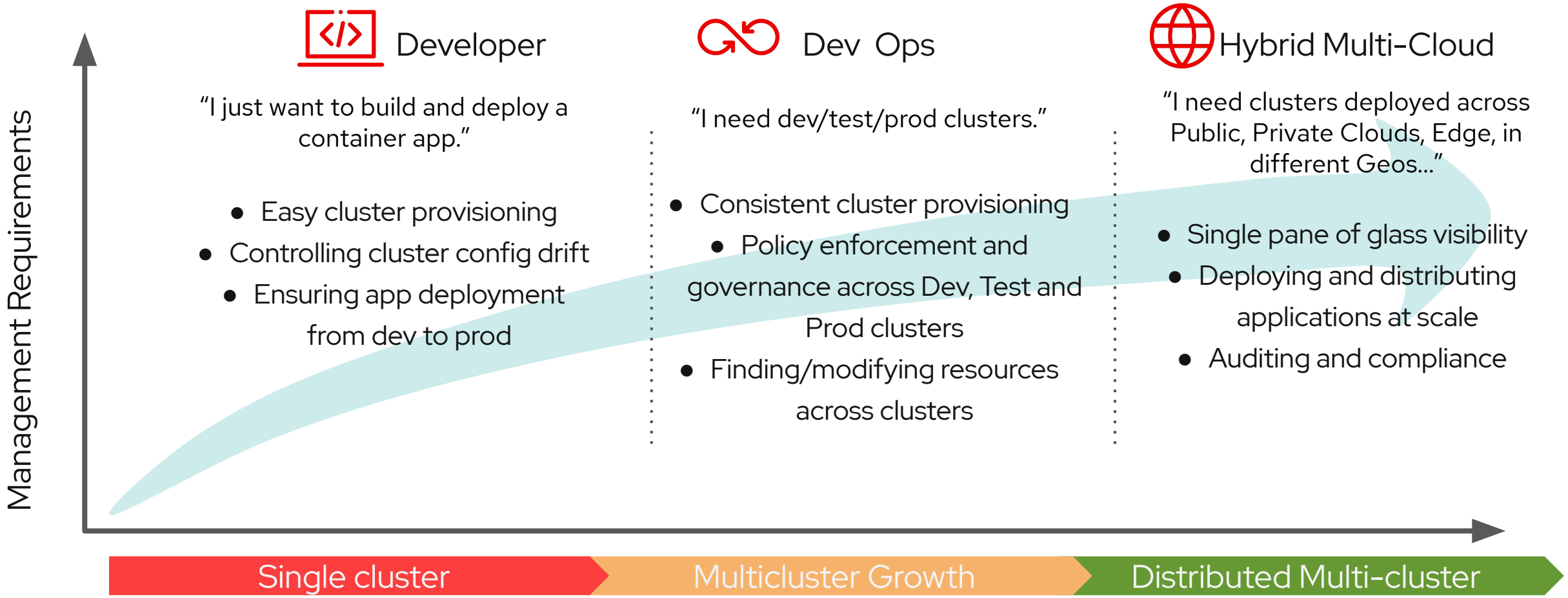
Kubernetes Adoption Leads to MultiCluster

As Kubernetes gains adoption across the industry, scenarios are arising in which I&O teams are finding ***they must deploy and manage multiple clusters****, either in a single region on-premises or in the cloud, or across multiple regions....for a number of reasons, including multi-tenancy, disaster recovery, and with hybrid, multi-cloud, or edge deployments.*

Source: Assessing Patterns for Deploying Distributed Kubernetes Clusters doc # G00465217, by Tony Iams

Multi-cluster Management Challenges:

How do I normalize and centralize key functions across environments?



Where are you in your journey?

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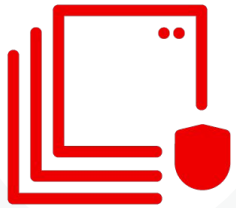
Introducing:

Red Hat Advanced Cluster Management for Kubernetes

(*Tech Preview*)

Multicluster Lifecycle Management



Policy Driven Governance, Risk and Compliance

Advanced Application Lifecycle Management

Benefits

Red Hat OpenShift and Red Hat Advanced Cluster Management for Kubernetes

Accelerate Development to Production

Self-service provisioning allows app dev teams to request clusters directly from a catalog removing central IT as a bottleneck.

Ease Compliance

Policies can be written by the security team and enforced at each cluster, allowing environments to conform to your policy

Increase Application Availability

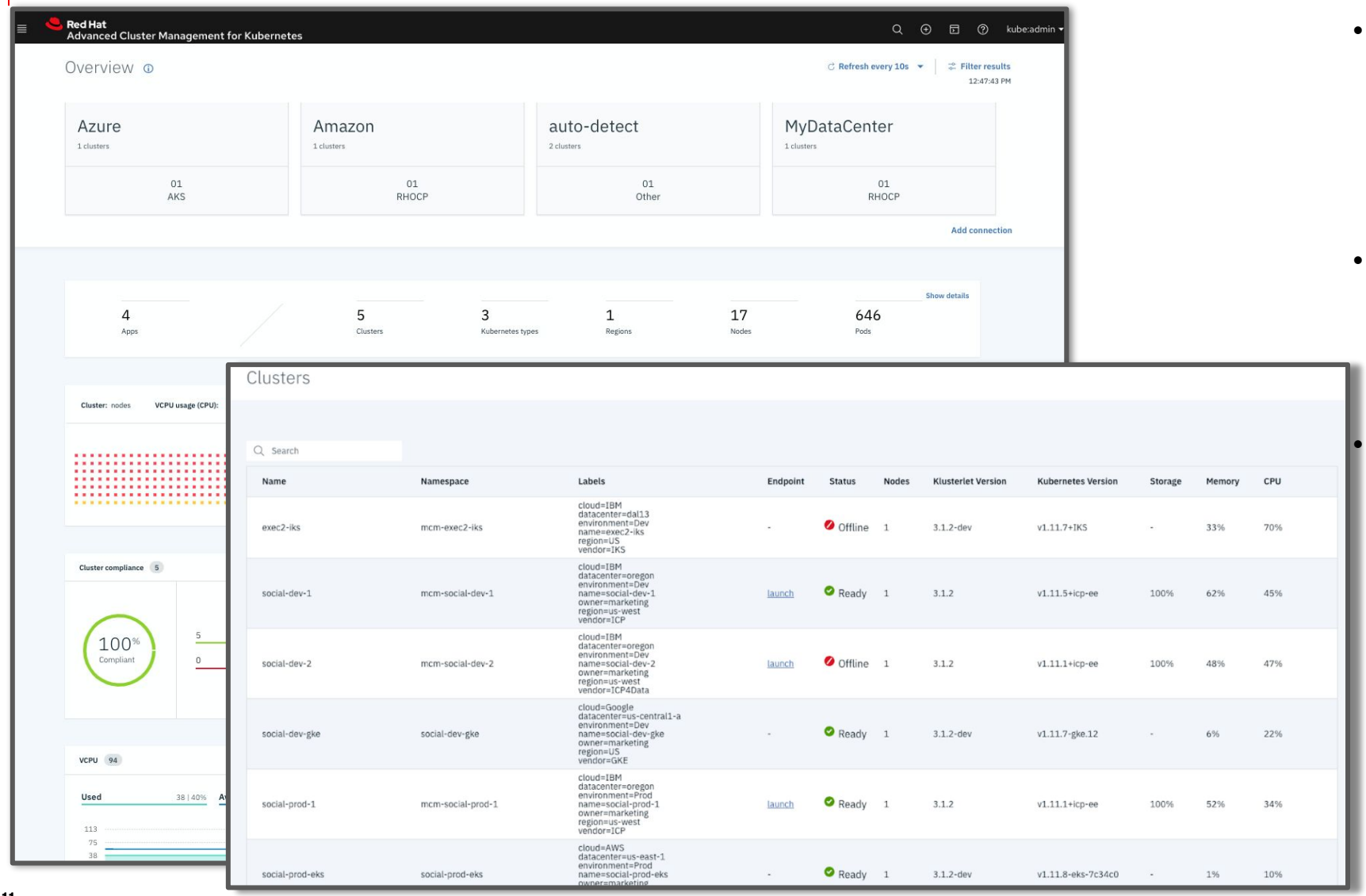
Placement rules can allow quick deployment of clusters and applications across distributed locations for availability, capacity, and security.

Reduced Costs

Centralized management of clusters reduces operational cost, makes the environment consistent, and removes the need to manually manage individual clusters.

Unified Multi-Cluster Management

Single Pane for all your Kubernetes Clusters



- **Centrally** create, update and delete Kubernetes clusters **across multiple** private and public clouds
- Search, find and modify **any** kubernetes resource across the **entire** domain.
- **Quickly** troubleshoot and resolve issues across your **federated** domain

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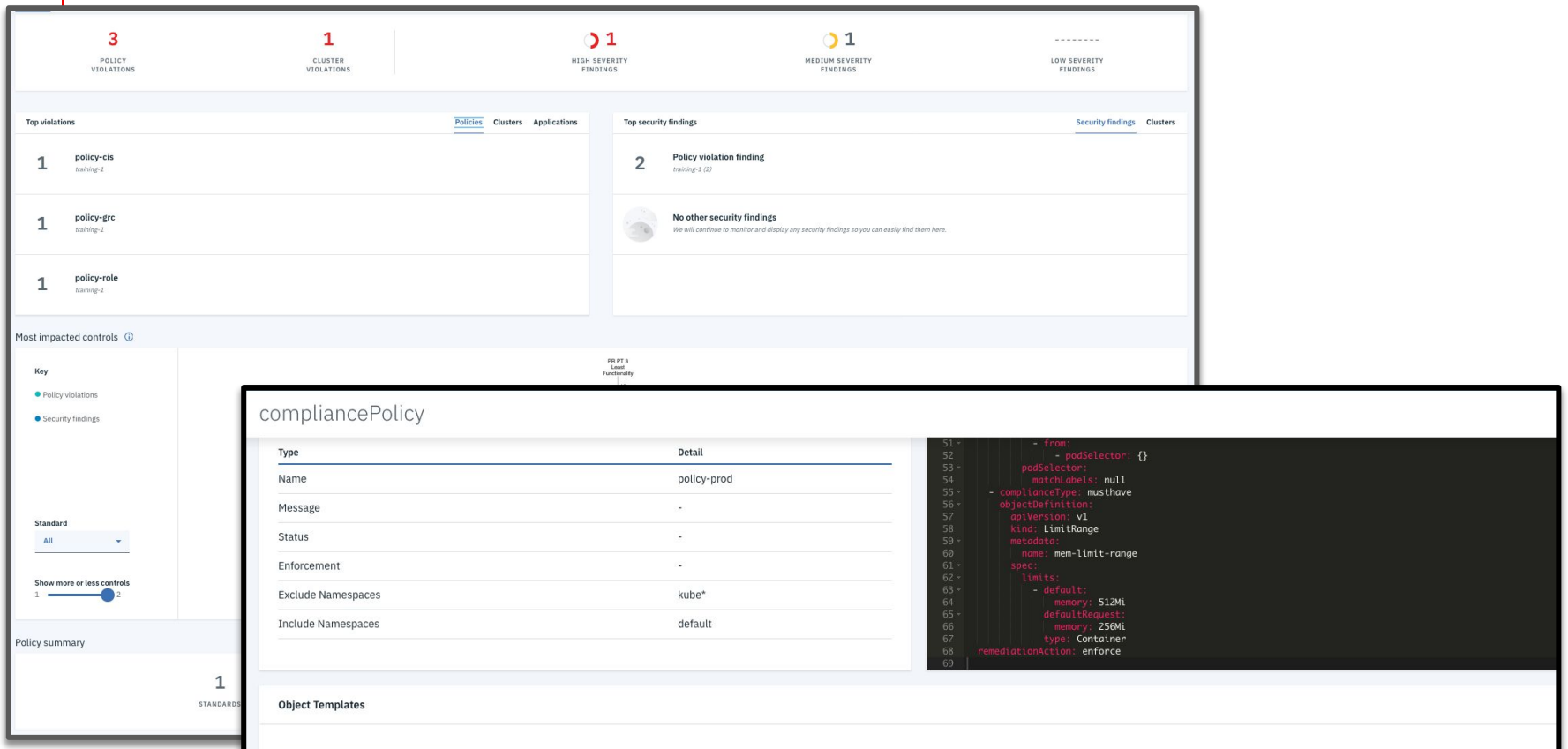
Policy based Governance, Risk and Compliance

Don’t wait for your security team to tap you on the shoulder



- **Centrally** set & enforce policies for security, applications, & infrastructure
- Quickly **visualize** detailed **auditing** on configuration of apps and clusters
- Built-in **CIS** compliance policies and audit checks
- **Immediate** visibility into your compliance posture based on **your** defined standards

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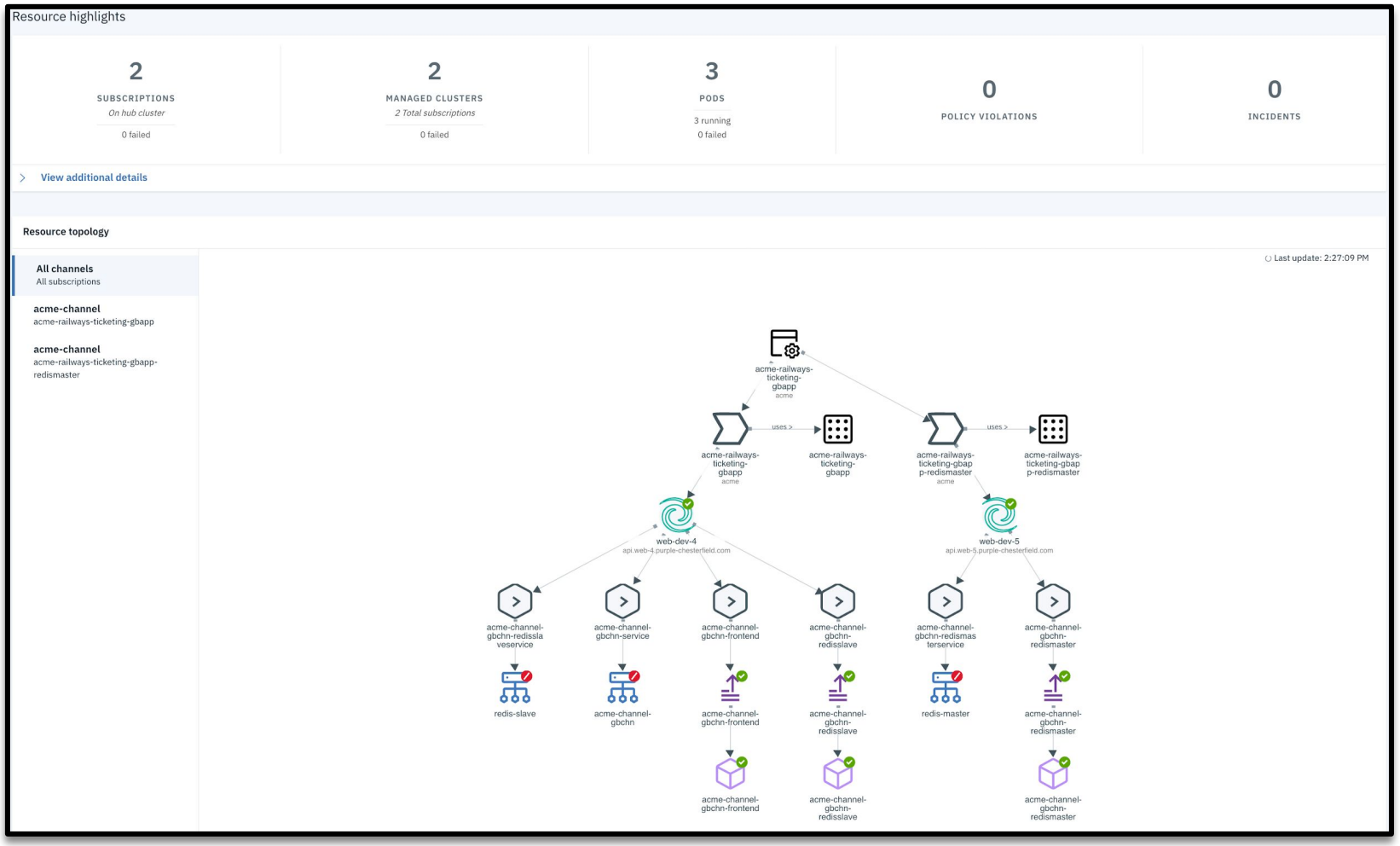
Advanced Application Lifecycle Management

Simplify your Application Lifecycle



- **Easily** Deploy Applications at **Scale**
- Deploy Applications from **Multiple** Sources
- Quickly **visualize** application relationships **across** clusters and those that **span** clusters

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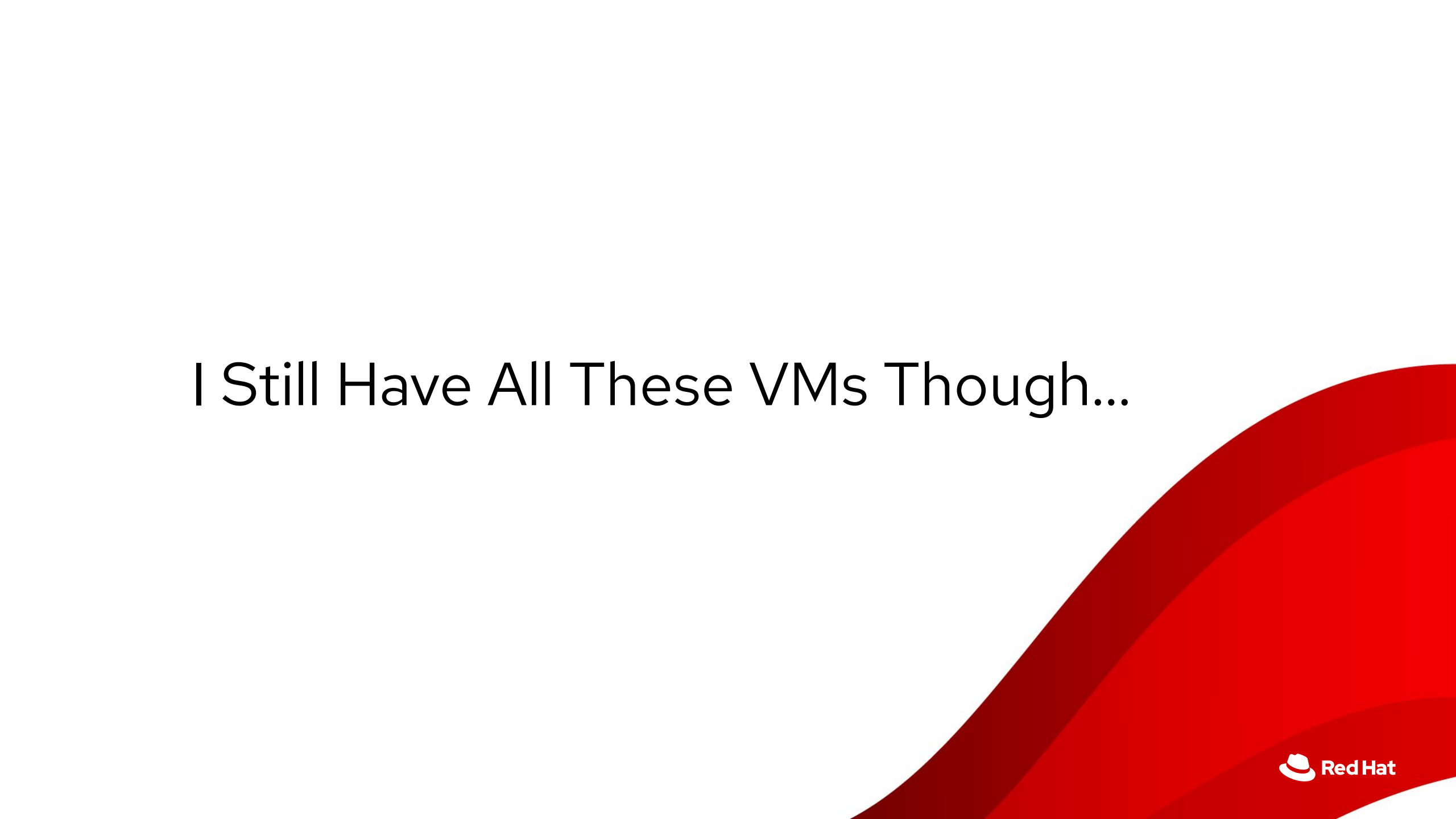
Getting access to the tech preview

Only existing RHOCP customers will be able to access the tech preview, Non - OCP customers can first try the OpenShift Container Platform evaluation.

Existing OCP customers who want to try Advanced Cluster Management for Kubernetes can gain access to the Tech Preview.

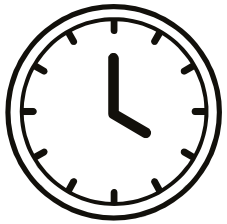
In either case, please reach out to your Red Hat account team!

I Still Have All These VMs Though...

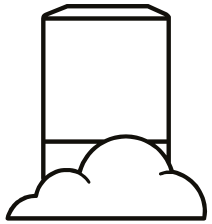


New applications require

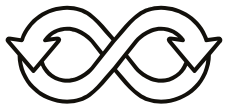
Cloud-like developer experience



Improved time to market



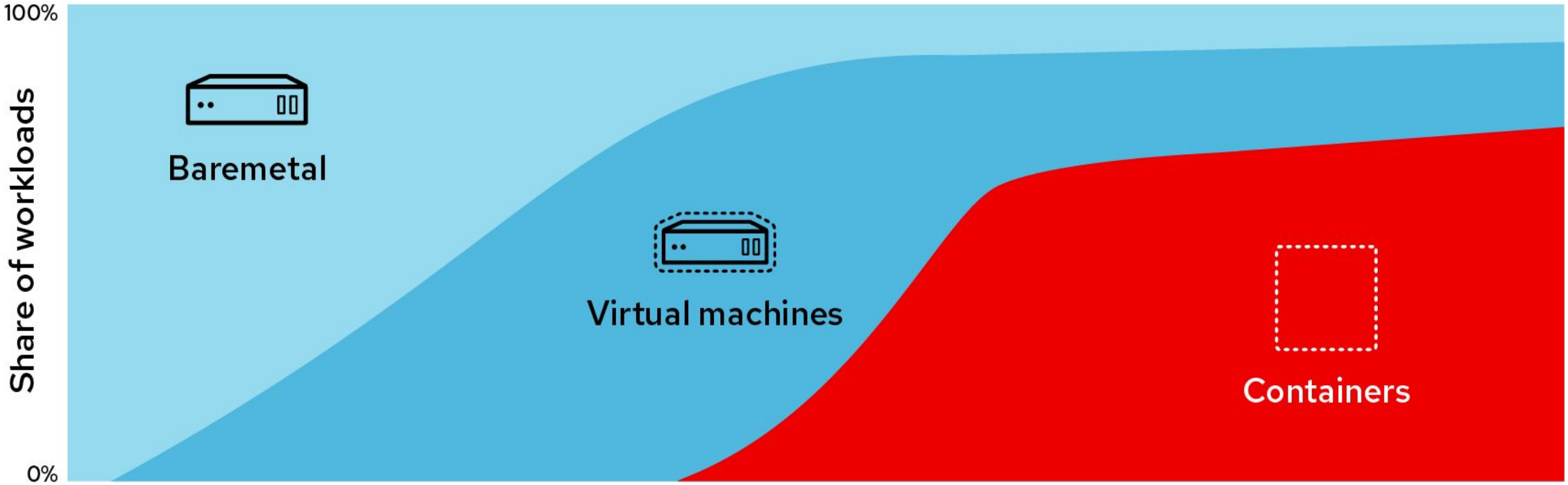
Flexibility between on-premises and the cloud



Integration with new key technologies

Applications Require Multiple Technologies

Where are you? Where do you want to be?



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acknowledges organizations use both containers and virtualization today and delivers an efficient process to manage both in one centralized platform...

OpenShift Virtualization

Meeting business, customer, AND developer needs

Meets Developer Needs: Faster Time to Market

Deliver ability to modernize applications over time and slowly deconstruct existing virtual machines

Delivers Operational Flexibility: Simplified Management

Reduce overhead by simplifying the management of virtual machines and containers with a single platform.

Standardized Deployment: Reduced Cost

Avoid unnecessary application refactoring and build services with the right platform and existing resources

Automate Complexity, Focus on Code

Containerize your VMs

Using a common platform, Kubernetes, to manage virtual machines

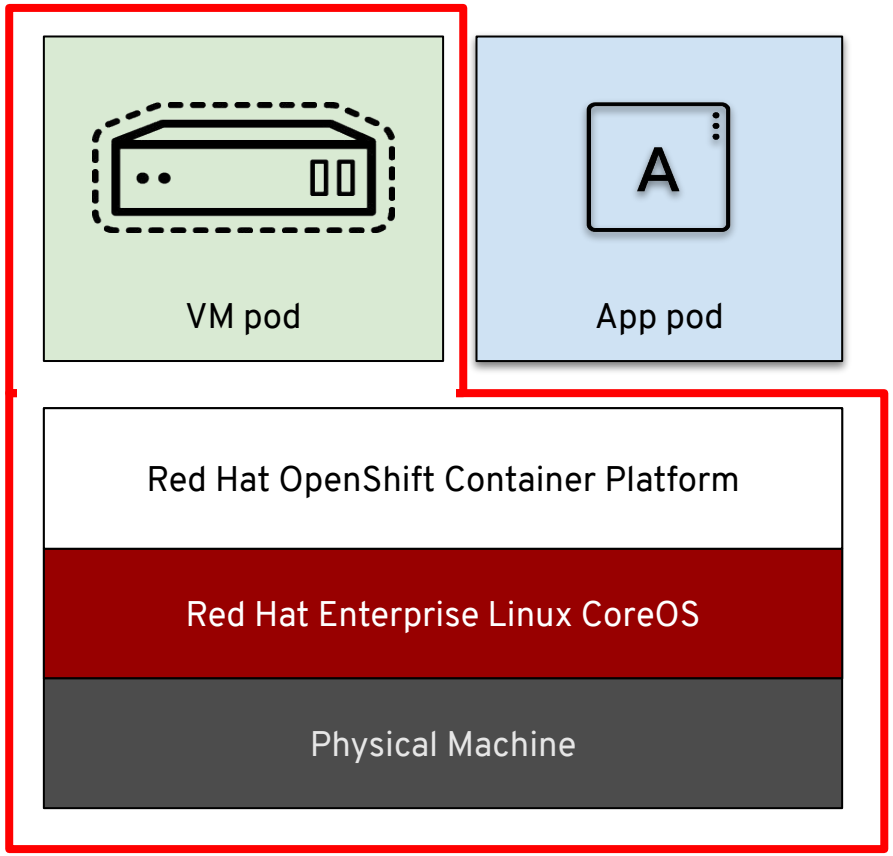
AND containers teams automate their experience with:

- One management platform
- One development platform
- One security practice

Red Hat OpenShift delivers Container-native virtualization with a common understanding of application needs from ops to development

OpenShift Virtualization

The benefits of virtualization, the performance and agility of containers



VMs and Containers Managed by Kubernetes

- Manage VMs and containers from a single platform
- Realize Kubernetes benefits even for application components which can't be directly containerized
- Support immediate and long term goals for container adoption

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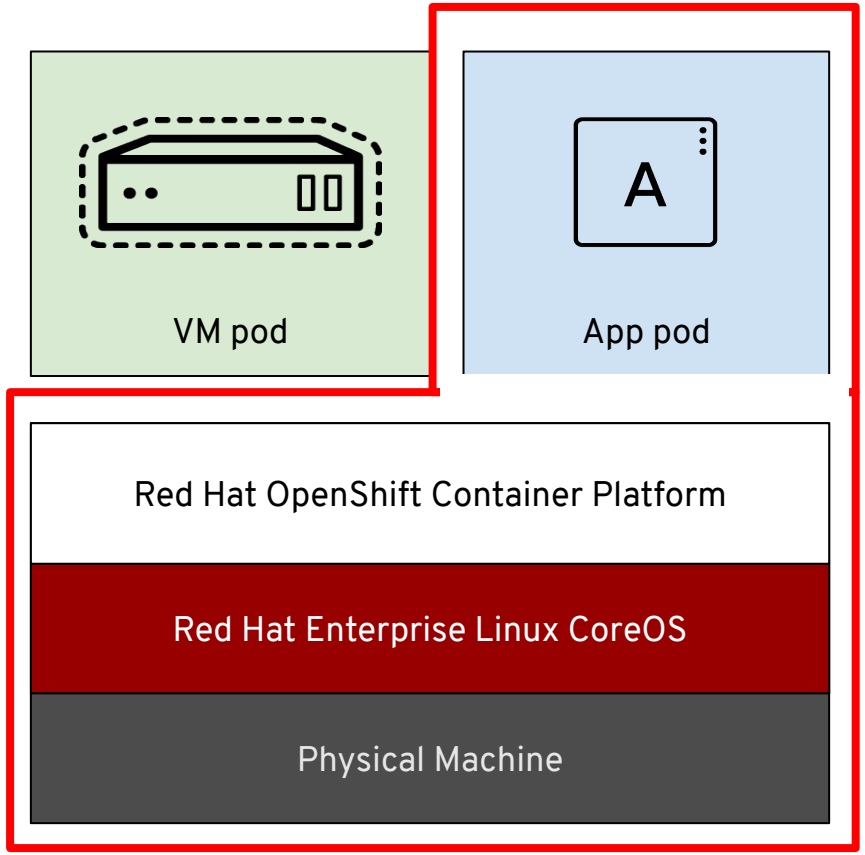
OpenShift Virtualization

The benefits of virtualization, the performance and agility of containers



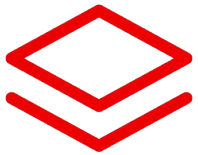
Realize Kubernetes-native benefits in virtual machines

- Schedule, connect, and consume VM resources as container-native
- Seamlessly scale and automate deployments and updates on-prem or in the cloud
- Integrate with container orchestrators and resources

This is Awesome, but What About Linux?

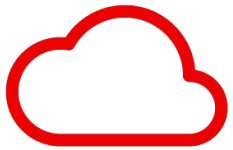
Red Hat Enterprise Linux 8.2

General availability April 28, 2020



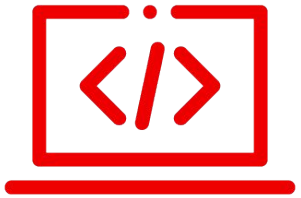
Consistent Platform

- 6 month release cadence facilitates upgrade planning
- Ease of upgrade from earlier releases
- Simplified installation and configuration
- Monitor and manage at scale with Insights



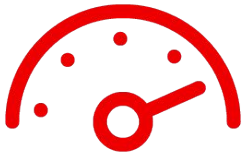
Hybrid Cloud

- Build and deploy on bare metal, VM or public clouds
- Simplify workload mobility
- CoreOS and Universal Base Images are RHEL based for consistency across the Red Hat Portfolio
- Container Tools: improved deployment experience



For Developers

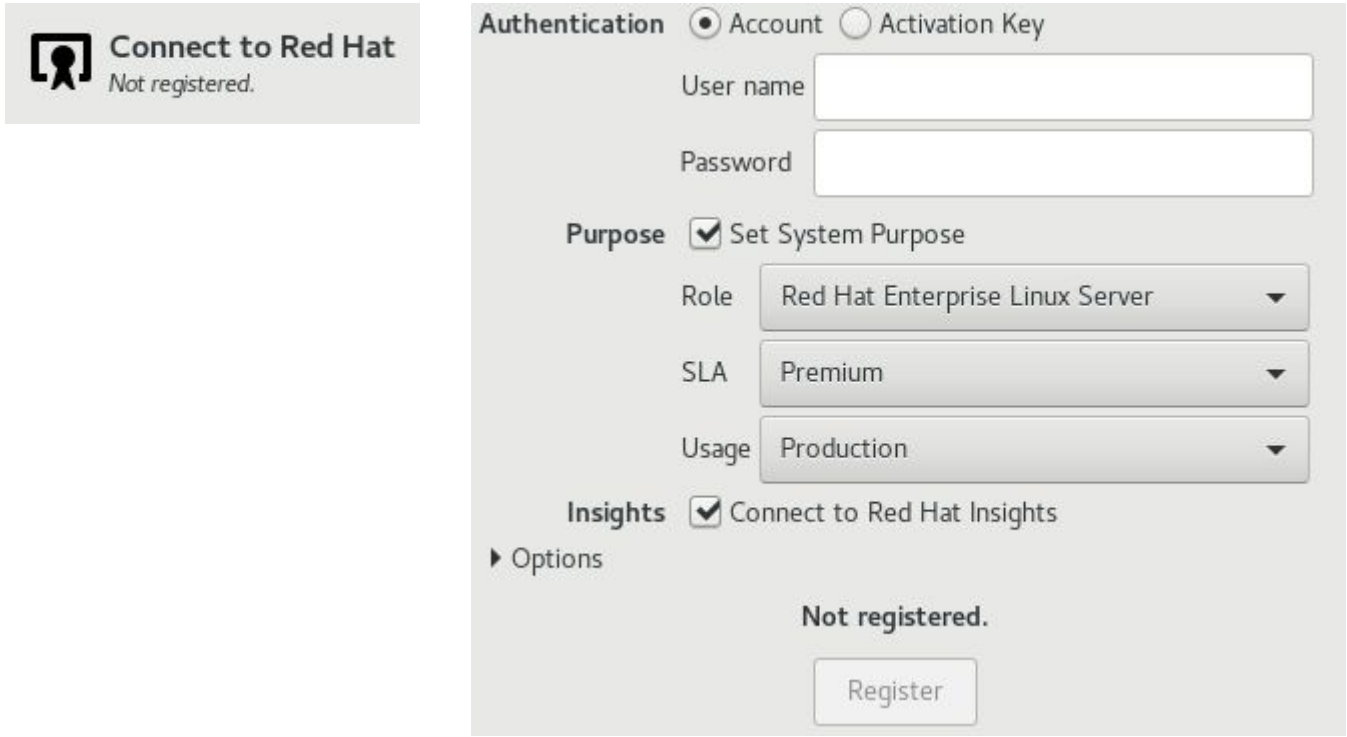
- Latest developer tools and languages delivered in application streams
- Freedom to share UBI based containers
- Certification programs for partners expands ecosystem of supported solutions



Performance

- Selection of tuning profiles
- Tracing and monitoring tools help identify bottlenecks across complex deployments
- Monitor throughput of Microsoft SQL Server databases on RHEL

Insights & subscription registration from the beginning



The Red Hat Enterprise Linux installer, now includes the ability for customers to register their system with Subscription Manager and Red Hat Insights services.

Also integrated into Web Console to configure later or update if needed.

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Red Hat Content Delivery Network (CDN) now usable as an installation source

Register at installation

As part of the installation, register with Subscription Manager and Red Hat Insights.

Always begin up to date

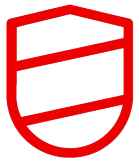
Systems installed from the CDN have the most up to date packages applied to them as part of the installation

Automate registrations

Updating kickstart with a `rhsm` command will allow for systems to be automatically entitled and registered with Insights when installed

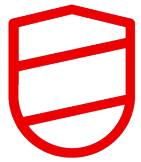
Additional Details:
Performing a standard RHEL installation, Chapter 4.3 Registering and installing RHEL from the CDN using the GUI
Performing an advanced RHEL installation, Chapter 10 Registering and Installing RHEL from the CDN Using Kickstart
System Design Guide, Chapter 21 Registering and Installing RHEL From the CDN Using Kickstart

New OpenSCAP profiles



Australian Cyber Security Center (ACSC) Essential 8

OpenSCAP profile details

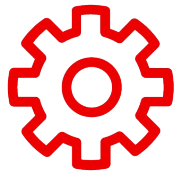


DISA STIG (Draft) for Red Hat Enterprise Linux 8

OpenSCAP profile details

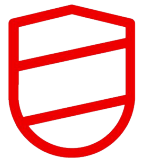
Red Hat

Customizable System-wide Crypto Policies



Customize existing policies

Exempt applications from using System-wide Crypto Policies



Create your own custom policy

Administrator defined System-wide Crypto Policies are also now supported

Try System-wide Crypto Policies now

https://lab.redhat.com

Additional Details

Red Hat Security Hardening Guide, Chapter3

Red Hat Universal Base Image (UBI) 8.2
Open, Redistributable, Standardized

New language support:

- OpenJDK
- .Net 3.1

Source Containers: making source code easily available

- Uses native container tooling to access/manage
- Resolves a legal hurdle on how to redistribute this container image and still comply with the GNU Public License (GPL)

Additional Details:
Obtaining Source Code for Containers: Building, Running, and Managing Containers Guide, Chapter 4
Review and Download UBI images
UBI Image included development tools

CRIU: A new container tool for portability

Checkpoint
a container, including its current state

Restore
that container to the same or different host

In Userspace
userspace tools are used to perform these operations

Why?

- ❏ Migrate containers, complete with preserve state, to different hosts
- ❏ Drastically reduce container start time
- ❏ Supported in RHEL 8.2 (Tech Preview in previous releases)

Additional Details
Container Migration with Podman, Engineering blog

Containerized Container Tools [Tech Preview]

Available with 8.2:

- buildah
- skopeo

On the roadmap:

- podman

Helping the non-Red Hat container tool developer work with Red Hat native containers

New and improved Red Hat Insights

Still included with Red Hat Enterprise Linux subscription, now with more value

New and expanded services provide additional security and operational efficiency.

*Active RHEL subscriptions versions 6.4 & higher

Red Hat

Red Hat Insights

Dashboard
Advisor
Vulnerability
Compliance
Patch
Drift
Policies
Inventory
Remediations
Subscription Watch

Documentation

Overview

Insights system inventory

100000 0% of total systems

Systems running insights-client

stale systems

systems to be removed

Subscription watch utilization summary

Red Hat Enterprise Linux 75%

Red Hat OpenShift 15%

Patch

354 systems affected

1130 security advisories

2932 bug fixes

561 enhancements

Advisor recommendations

5 incidents detected

1 Critical 30 Important 86 Moderate 28 Low

145 recommendations impacting 288 systems

Vulnerabilities

2707 CVEs impacting your systems

230 CVSS 8.0 - 10 2055 CVSS 4.0 - 7.9 422 CVSS 0.0 - 3.9

Compliance

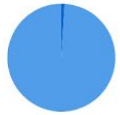
Report

PCI-DSS v3.2.1 for MyCorp

0 systems 0% passes

Red Hat Corporate Profile for Certified Cloud Providers (RH CCP)

1 system 0% passes



DISA STIG for Red Hat Enterprise Linux 7

0 systems 27% passes

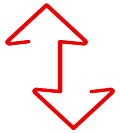
9 more compliance policies

Overview of expanded Red Hat Insights services

Advisor
Availability, performance, and stability risk analysis

Vulnerability
Assess, remediate and report on Red Hat Enterprise Linux Common Vulnerability and Exposures (CVEs)

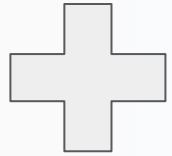
Compliance
Assess and monitor regulatory compliance, built on OpenSCAP



Drift
Create baselines and compare system profiles

Policies
Define and monitor against your own policies to identify misalignment

Patch
Analyze for Red Hat product advisory applicability to stay up to date



Subscription Watch
Track progress of your Red Hat subscription usage efficiently and confidently.

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The *NOT SO BIG* Announcements

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Red Hat Satellite 6.7

Integration Enhancements

- Improved Experience with Ansible Tower
- RHEL 8 Web Console Integration
- Enhancements to Module Streams
- **Cloud Connector**

Security Improvements

- **User Impersonation**
- Simplified HTTP Proxy
- Common Access Card support via Red Hat SSO

Content Management

- Entitlement Reporting
- **Template import/export from SCM (git) or disk**
- Source RPM Upload

Provisioning Updates

- **Azure Support**
- GCE Enhancements

Red Hat Ansible Automation Platform

Automation Service Catalog

- **Currently in Beta** (GA planned for end of May)
- Pre-built automation for Dev and Business
- Multi-Tower Support
- ITSM ToolChain Integration
- Role-Based Sharing
- Multi-Level Business Approvals

Automation Hub

- Content Collections
- **On-Premise Hub coming later in 2020**
- Certified Partner Content
- Private Content
- Customizable Content Catalog

Automation Analytics

- **ROI Calculator**
- Organization Statistics
- Cluster Stats
- Expanded Notifications
- Drill Down

General Announcements

- **Support for IBM SystemZ**
- Execution environments

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Red Hat OpenShift

General Announcements

- **Azure Red Hat OpenShift (ARO) moved to 4.3**
- Red Hat Marketplace
- **OpenShift version 4.4!**

In 4.4 (now!)

- Helm 3
- **Kubernetes 1.17**
- HAProxy 2.0
- IPI for RHV
- OpenShift Pipelines (Tech Preview)
- OpenShift Serverless (Serving in GA, Eventing in Tech Preview)
- CSI snapshot/restore (Tech Preview)

Targeted in 4.5/4.6 (2nd half of 2020)

- **Windows containers!**
- OpenShift Pipelines (GA)
- OpenShift Serverless (Eventing in GA)
- IPI for vSphere
- 3-node clusters, remote workers (Edge)

Red Hat Middleware

Runtimes

- Quarkus (GA)
- Data Grid 8.0
- JBoss EAP 7.3
- Jaeger Tracing
- RHAMT 4.3.1

Integration

- 3Scale 2.8
- Open API Spec 3.0
- Camel-K (TP)
- Data Virtualization (TP)
- Fuse 7.6

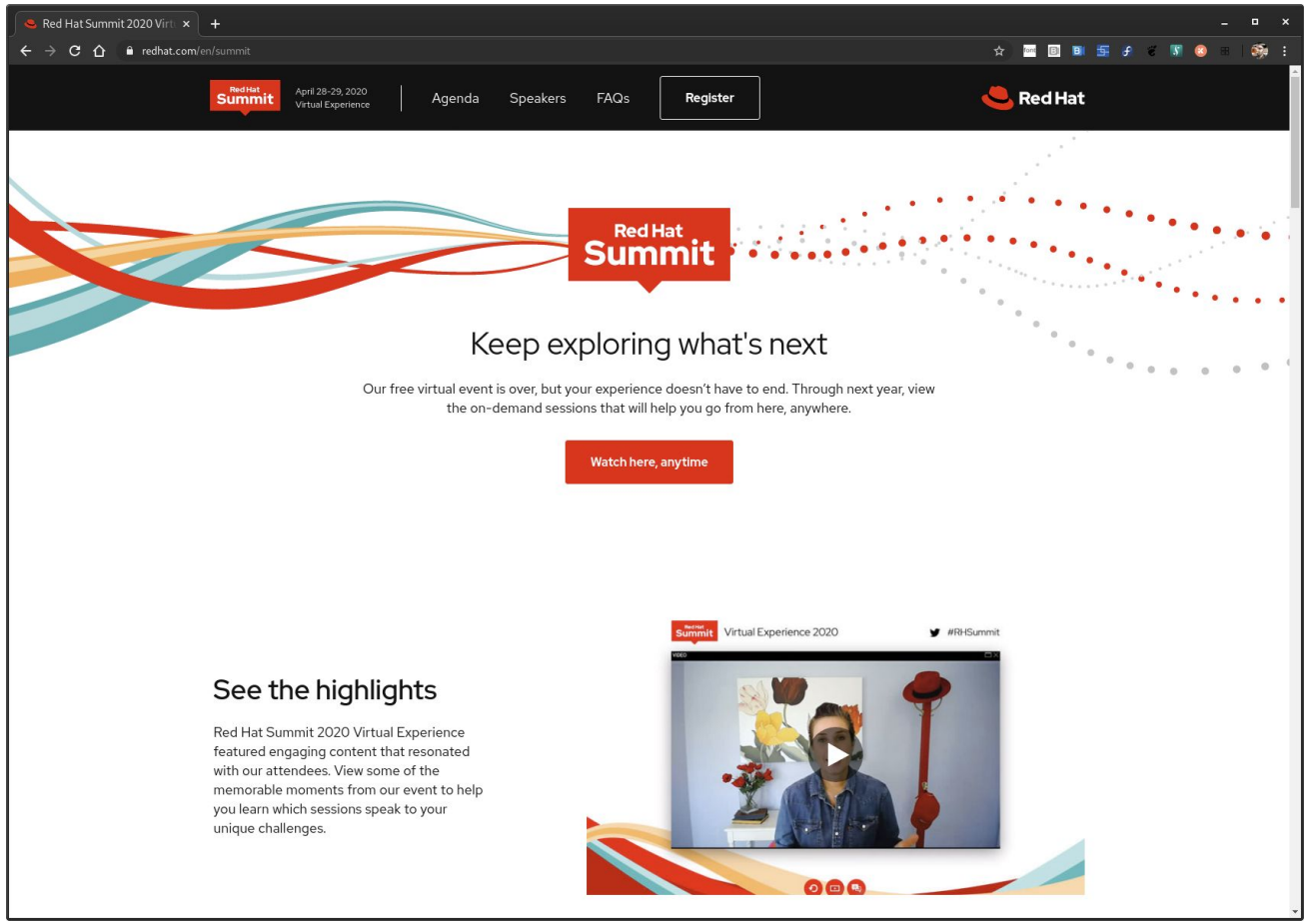
Process Automation

- Kogito (DP)
- PAM & DM 7.7
- Blue Prism Partnership

In Case You Missed It...

Watch all of the Virtual Experience Content Now!

- All Red Hat Summit 2020 Virtual Experience sessions will remain available for 12 months
- If you didn't register, you can still access sessions! Just register and login to view all of the great content!
- It's still FREE!



https://www.redhat.com/en/summit

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Recommended Sessions (my choices)

General Sessions

- **General Session 3: Demo - From the private datacenter to the edge**
- General Session 4: Keynote - Unlocking data to build the future

DevOps, Hybrid Cloud, and Middleware

- Implementing multi-layer container and Kubernetes security with OpenShift for automated DevSecOps
- OpenShift Virtualization: A simplified, converged management platform for virtual machines and containers
- Event Driven Architecture with Quarkus, Kafka, and OpenShift

Automation

- Case study: Changing governed IT processes to automation, and reinventing IT Ops as site reliability engineering
- Value of an automation platform—more than just the Ansible you know today

Platform and Management

- Red Hat Management strategy and roadmap
- **Demo of using Red Hat Insights to proactively keep your Red Hat Enterprise Linux environment stable, secure and compliant**

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Thank you


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