RHUG Intro and Agenda

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Agenda

- Introductions & Announcements
  - Richard Hofmeister
- Ansible + Terraform = Better Together
  - Brad Krumme
- Surprise Conversation
  - Who Knows
- Leveraging AI to Modernize at Scale
  - Richard Hofmeister

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Platform Release Schedule

All Dates Subject to Change

- OpenShift 4.20 : RELEASED
- AAP 2.6 : RELEASED
- RHEL 9.7 : RELEASED
- RHEL 10.1 : RELEASED
- Red Hat Satellite 6.18 : RELEASED
- Red Hat AI 3.0 : RELEASED
- ACM 2.15 : SOON™
- Quay 3.16 : SOON™
- OpenShift 4.21 : Q1 2025
- RHEL 9.8 : Q2 2025
- RHEL 10.2 : Q2 2025

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Middleware Release Schedule

All Dates Subject to Change

- JBoss EAP XP 6.0 : RELEASED
- Project Hummingbird : Early Access
- Developer Hub 1.8 : RELEASED
- Migration Toolkit for Virtualization 2.10 : RELEASED
- Red Hat build of Apache Camel 4.14 : RELEASED
- Red Hat build of Keycloak 26.4 : RELEASED
- OpenJDK 25 : RELEASED
- OpenShift Dev Spaces 3.25 : SOON™
- Quarkus 3.27 : RELEASED

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Upcoming ELS Dates

- EAP 7 : June 30, 2025
- JBoss Web Server : July 31, 2025
- Red Hat SSO : June 30, 2025
- OpenShift 4.14 : October 31, 2025
- OpenShift 4.16 : June 27, 2026
- Debezium 2.x : April 17, 2026 (EOL)
- Streams for Apache Kafka 2.x : September 20, 2026 (EOL)

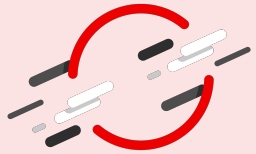
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Red Hat OpenShift 4.20 Highlights



AI

- Distributed AI workloads with LeaderWorkerSet (GA) and JobSet (TP)
- Distributed Inference with llm-d with Red Hat OpenShift AI 3.0
- Runtime OCI Image Volume Source for AI Workloads
- Multi-cluster support with OpenShift Lightspeed 1.1 *(coming in Dec 2025)*
- Kubernetes and OpenShift accessibility via Model Context Protocol (DP)



Core

- Bring your own OIDC Identity Provider (GA)
- Zero Trust Workload Identity Manager (GA)
- User namespace (GA)
- External Secrets Operator (GA)
- BGP in OVN-Kubernetes for on-premises (GA)
- Two node OpenShift with arbiter (GA)



Virtualization

- CPU load aware rebalancing with descheduler (GA)
- Arm Support (GA)
- Faster live migration via parallel streams
- OpenShift Virtualization on ARO with Azure Boost and OpenShift Data Foundation
- OpenShift Virtualization on bare metal in OpenShift Dedicated, Google Cloud (GA) and Oracle Cloud (GA)

GA: Generally Available
TP: Technology Preview
DP: Developer Preview

red.ht/whatsnew

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AI Workloads in OpenShift 4.20

Optimizing Infrastructure for Enterprise AI/ML



Leader/Worker Set

General Availability

Simplifies leader-follower workload orchestration for distributed applications within Kubernetes.



JobSet

Technology Preview

Facilitates coordinated execution and lifecycle management of complex, multi-pod batch jobs in Kubernetes.



OCI Volume Source for AI Workloads

General Availability

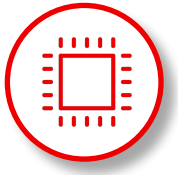
Allows containers to directly mount model images as volumes, streamlining AI/ML deployment pipelines.



Red Hat Build of Kueue 1.1

General Availability

Provides Kubernetes-native job queueing for workload orchestration in OpenShift. Supports all OCP architecture types (x86, Arm, IBM Power and IBM Z).



DRA (Attribute-Based GPU Allocation)

Technology Preview

User specifies device type like Nvidia H100 or A100 as opposed to / NVIDIA.com.

Product Managers: Gaurav Singh, Duncan Hardie

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Bring Your Own External Authentication (GA)

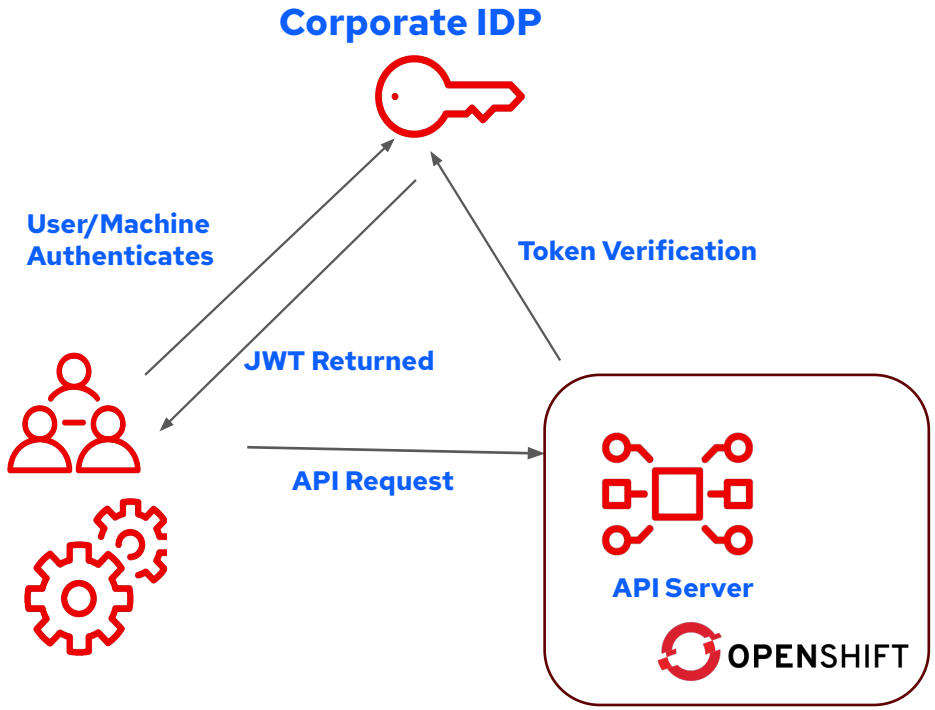
Direct Integration of Corporate Identity Providers with OpenShift APIs

Core Functionality In Self-Managed OpenShift:

- Works on both fresh installs & upgrades
- Switch easily between OAuth server & BYO OIDC configs
- Built-in oc-oidc CLI plugin (Auth Code + PKCE)
- Verified end-to-end with Red Hat–supported OIDC Identity Providers

Customer Benefits

- Corporate IDP Tokens: Direct API access using enterprise credentials
- Customer control over session configuration, which is important for compliance
- Unified Access: Single pane for users & groups across clusters
- Upstream-Aligned: Based on upstream OIDC structured authentication
- Automation-Ready: Enables hybrid & multi-cloud workflows



Self-managed OpenShift OCPSTRAT-1804

Also available on ROSA HCP ROSA-130 and ARO HCP ARO-21390

Product Manager: Anjali Telang

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OpenShift Virtualization Highlights

Modernize your operations with comprehensive lifecycle and infrastructure management

Simplified VM Management

- Multi-cluster VM operations and management
- Optimize cluster for Virtualization with recommended operators
- OpenShift Virtualization installation in Disconnected and Registry-less (TP)

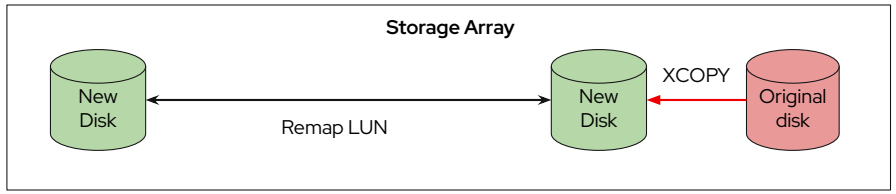
Optimize your infrastructure

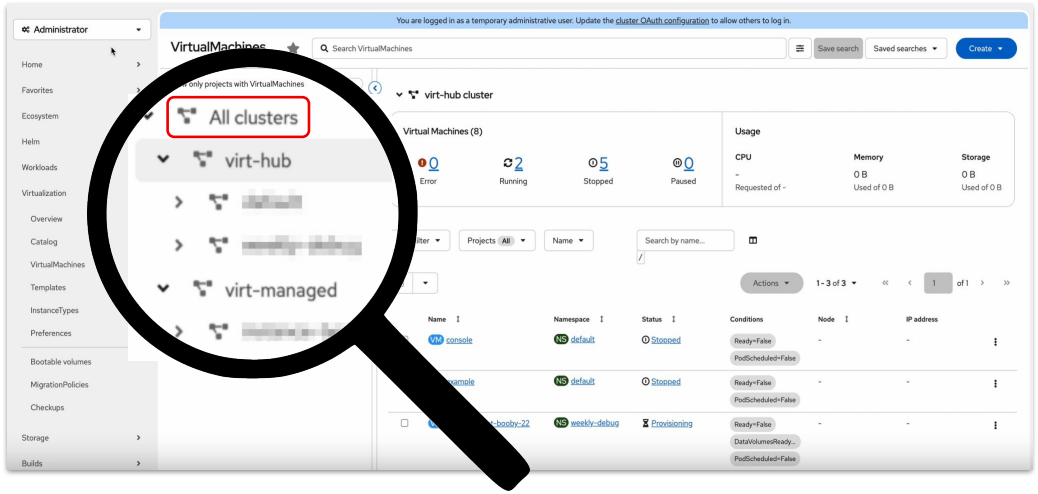
- Cross-cluster VM live migration (TP)
- Live migration to specific node
- Migrate large VMs up to **10 times faster** (minutes vs. hours) with *storage offload* on some models of Hitachi, NetApp, Dell, Pure, and HPE
- CPU utilization based Automatic VM workload balancing
- OpenShift Virtualization on Arm

Networking Enhancements

- Routed ingress (BGP) for L2 User Defined Network
- Ability to change the virtual network interface link state of a running VM
- Passt Integration for OpenShift Virtualization (TP)

MTV Storage offloading accelerated migration





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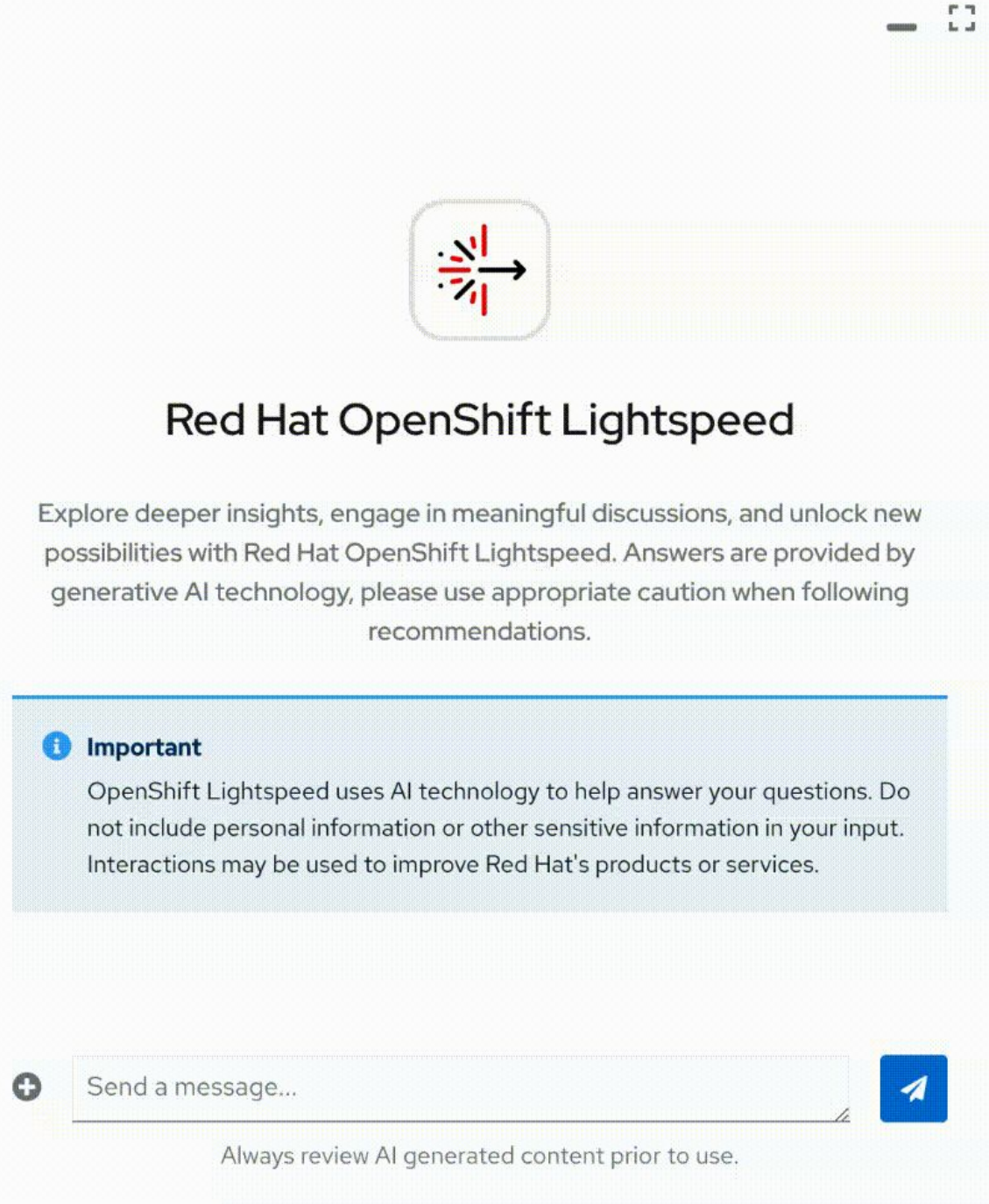
Product Managers: Peter Lauterbach, Ronen Sde-Or

Cluster Observability Operator

COO 1.3

New Features

- [Incident Detection MCP](#) / **COO 1.2.2+** (DP) ✔
- **Incident detection** for Red Hat OpenShift (GA)
- **Observability signal correlation f**or Red Hat OpenShift (GA)
- **APM** dashboard (DP)
- **Traces UI** enhancements

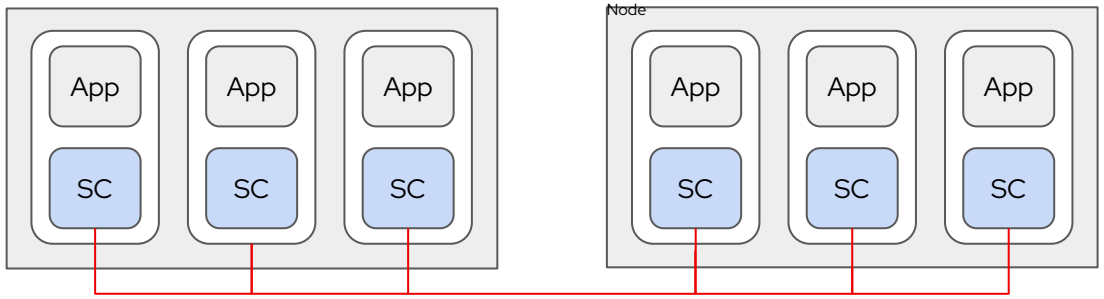


Product Managers: Vanessa Martini, Roger Floren

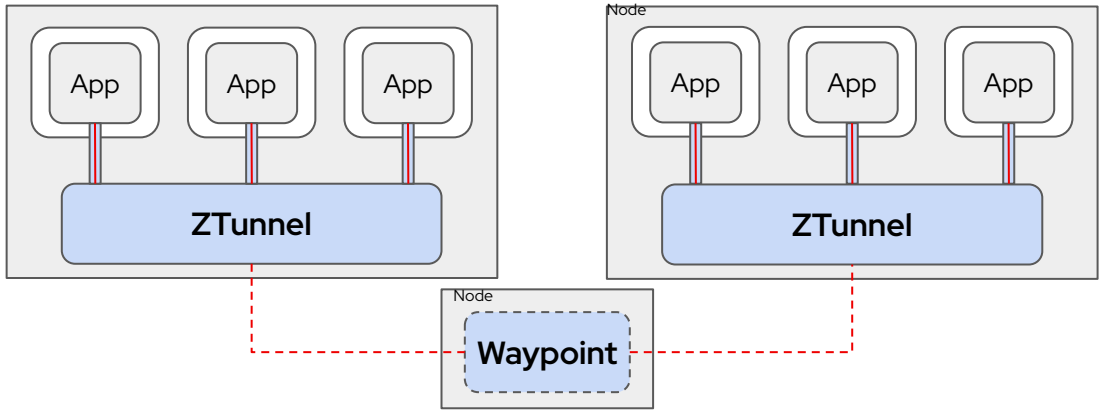
OpenShift Service Mesh

- OpenShift **Service Mesh 3.2** is coming soon:
  - Based **Istio 1.27** and **Kiali 2.17**
  - **Istio Ambient mode - Generally Available**
    - **Service mesh without sidecars!**
    - Significantly less resource usage
    - ZTunnel proxies enable lightweight pod to pod mTLS encryption
    - Waypoint proxies for L7 mesh features.
  - **Cert-manager 1.18 makes istio-csr GA**
  - Kiali's new "local mode" enables efficient debugging & observability
- OpenShift Service Mesh 3.2 will be supported on OCP 4.18+.

Sidecar mode (Traditional service mesh)



Ambient mode (GA in 3.2!)



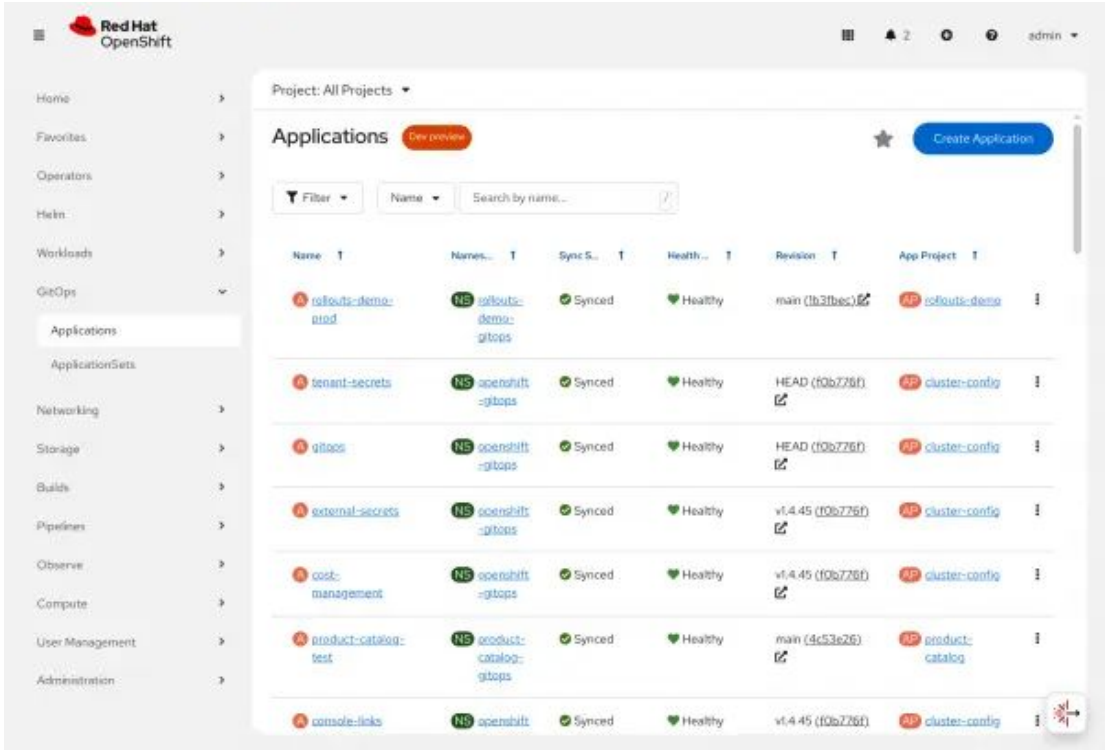
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OpenShift GitOps

OpenShift GitOps **1.18** release highlights:

- Argo CD 3.1, Argo Rollouts 1.8.3,

  and Argo CD Agent 0.4.1
- Console menu item Environments -> GitOps
- Keycloak usage update
- OCI Support



6 Customer RFEs, including:

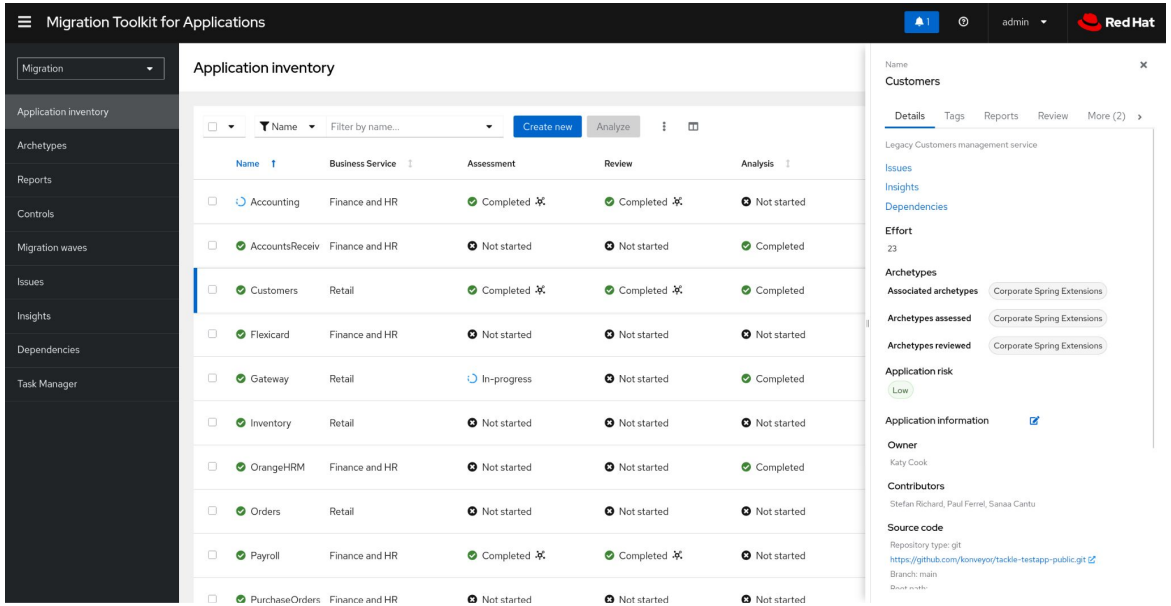
- Tenant namespace management without cluster-admin
- Declarative config to enable and disable auto-sync
- Dex support for additional volumes/volume mounts

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Migration Toolkit for Applications

Migration Toolkit for Applications 8

- GA of **Red Hat Developer Lightspeed for MTA** (Downstream of Konveyor AI)
  - Automated source code transformation leveraging LLMs
  - MTA addon available in the Red Hat Advanced Developer Suite subscription
- Simplify the migration from **Cloud Foundry to OpenShift** of already containerized applications that don't require changes in the source code by enabling MTA to:
  - Retrieve deployment and runtime configuration from the platform an application is deployed on
  - Produce deployment manifests and configuration files to deploy applications in OpenShift



Product Manager: Siamak Sadeghianfar (on behalf of Ramón Román Nissen)

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Find issues prior to Performing OpenShift Updates

General Availability

- GA in OpenShift 4.20
- Use **`oc adm upgrade recommend`** to show:
  - The next version recommended to update
  - Precheck feature: Important alerts which can affect updates

This allows users to check cluster before an update.

  - read-only command and does not alter the state of your cluster

```
$ oc adm upgrade recommend

Failing=True:

  Reason: ClusterOperatorNotAvailable
  Message: Cluster operator monitoring is not available

The following conditions found no cause for concern in updating this cluster to later releases:
recommended/NodeAlerts (AsExpected), recommended/PodImagePullAlerts (AsExpected)

The following conditions found cause for concern in updating this cluster to later releases:
recommended/PodDisruptionBudgetAlerts/PodDisruptionBudgetAtLimit/1

recommended/PodDisruptionBudgetAlerts/PodDisruptionBudgetAtLimit/1=False:

  Reason: Alert:firing
  Message: warning alert PodDisruptionBudgetAtLimit firing, which might slow node drains.
Namespace=openshift-monitoring, PodDisruptionBudget=prometheus-k8s. The pod disruption budget is
preventing further disruption to pods. The alert description is: The pod disruption budget is at the
minimum disruptions allowed level. The number of current healthy pods is equal to the desired healthy
pods.
https://github.com/openshift/runbooks/blob/master/alerts/cluster-kube-controller-manager-operator/PodDisruptionBudgetAtLimit.md

Upstream update service: https://api.integration.openshift.com/api/upgrades_info/graph
Channel: candidate-4.18 (available channels: candidate-4.18, candidate-4.19, candidate-4.18, eus-4.18,
fast-4.18, fast-4.19, stable-4.18, stable-4.19)

Updates to 4.18:
  VERSION     ISSUES
  4.18.32     no known issues relevant to this cluster
  4.18.30     no known issues relevant to this cluster
And 2 older 4.18 updates you can see with '--show-outdated-releases' or '--version VERSION'.
```


Product Manager: Subin Modeel

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OpenShift Update Status

General Availability

- GA in OpenShift 4.20
- **`oc adm upgrade status`** shows current status of the OpenShift updates
  - read-only command and does not alter the state of your cluster

```
$ oc adm upgrade status

= Control Plane =
Assessment:      Progressing
Completion:      12%
Duration:        12m5s
Operator Status: 33 Healthy

Control Plane Nodes
NAME                                          ASSESSMENT    PHASE     VERSION   EST   MESSAGE
ip-10-0-30-217.us-east-2.compute.internal   Outdated Pending   4.14.0   ?
ip-10-0-53-40.us-east-2.compute.internal    Outdated  Pending   4.14.0   ?
ip-10-0-92-180.us-east-2.compute.internal   Outdated  Pending   4.14.0   ?

= Worker Upgrade =

= Worker Pool =
Worker Pool:   worker
Assessment:    Excluded
Completion:    0%
Worker Status: 3 Total, 3 Available, 0 Progressing, 3 Outdated, 0 Draining, 3 Excluded, 0 Degraded

Worker Pool Nodes
NAME                                         ASSESSMENT  PHASE    VERSION   EST   MESSAGE
ip-10-0-20-162.us-east-2.compute.internal  Excluded    Paused   4.14.0    -
ip-10-0-4-159.us-east-2.compute.internal   Excluded    Paused   4.14.0    -
ip-10-0-99-40.us-east-2.compute.internal   Excluded    Paused   4.14.0    -

= Update Health =
SINCE LEVEL    IMPACT MESSAGE
- Warning  Update Stalled Outdated nodes in a paused pool 'worker' will not be updated

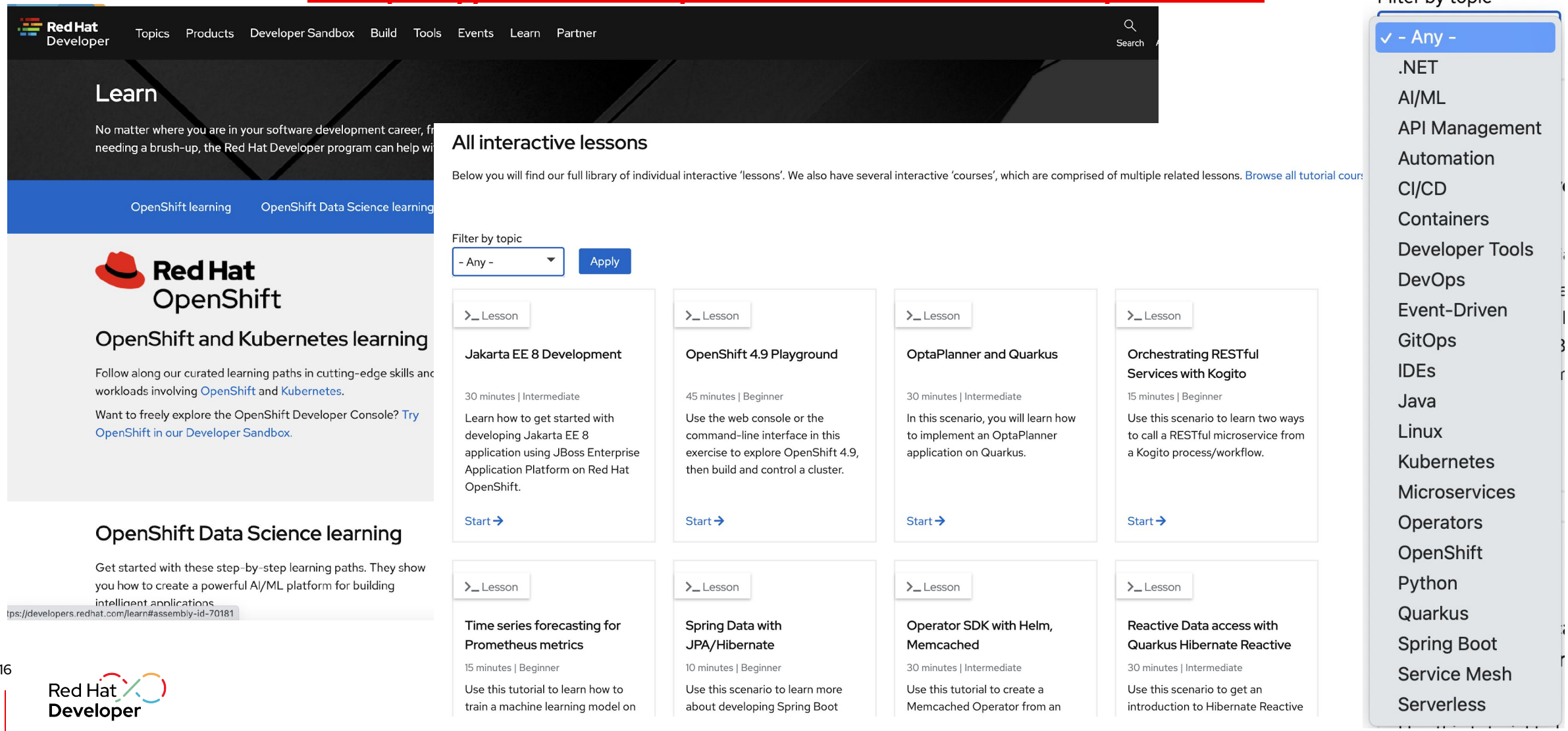
Run with --details=health for additional description and links to related online documentation
```


Product Manager: Subin Modeel

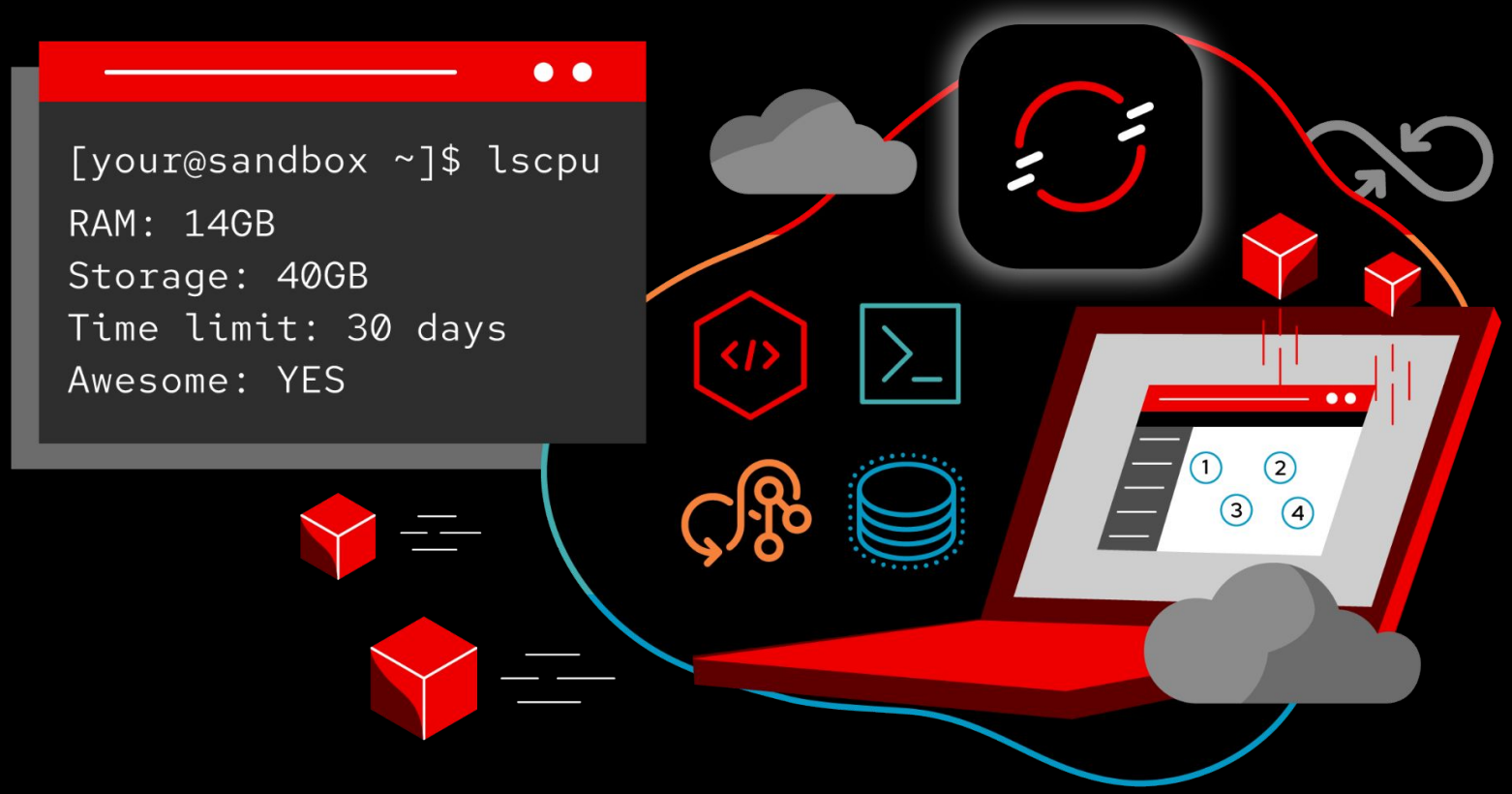
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Quarter	Speaker	Topic	Slide Deck
Q4 - 2022	Richard Hofmeister	Agenda	pdf
	Brian Dumont	Using the Insights API to apply Compliance Profiles	pdf
	Richard Hofmeister	Application Modernization With Konveyor	pdf
	Patrick Regan	What's New in RHEL 9	pdf
	Brad Krumme	Enterprise Architecture Patterns	pdf
Quarter	**Speaker**	**Topic**	**Slide Deck**
Q3 - 2022	Brian Dumont	Enterprise Automation	pdf
	Alan Patrick	Red Hat Satellite	pdf
	Jay Ryan	Managing Complex Workloads in a Kubernetes Native Environment	pdf
	David Brugger	Empowering Event Driven Architectures Across the Hybrid Cloud	pdf
	Andy Block	Introduction to GitOps and Secrets Management	pdf