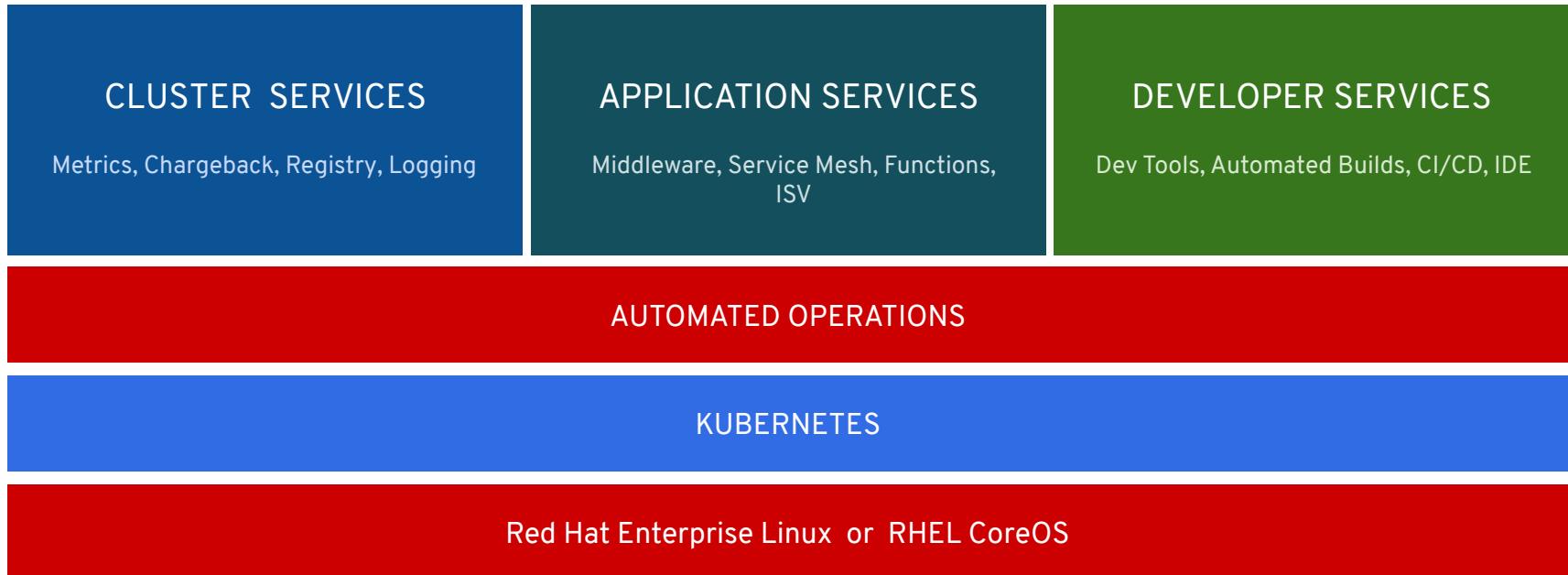




What's New in OpenShift 4.1

Partner Solutions Architect

OpenShift 4 Platform



Best IT Ops Experience

CaaS \longleftrightarrow PaaS \longleftrightarrow FaaS

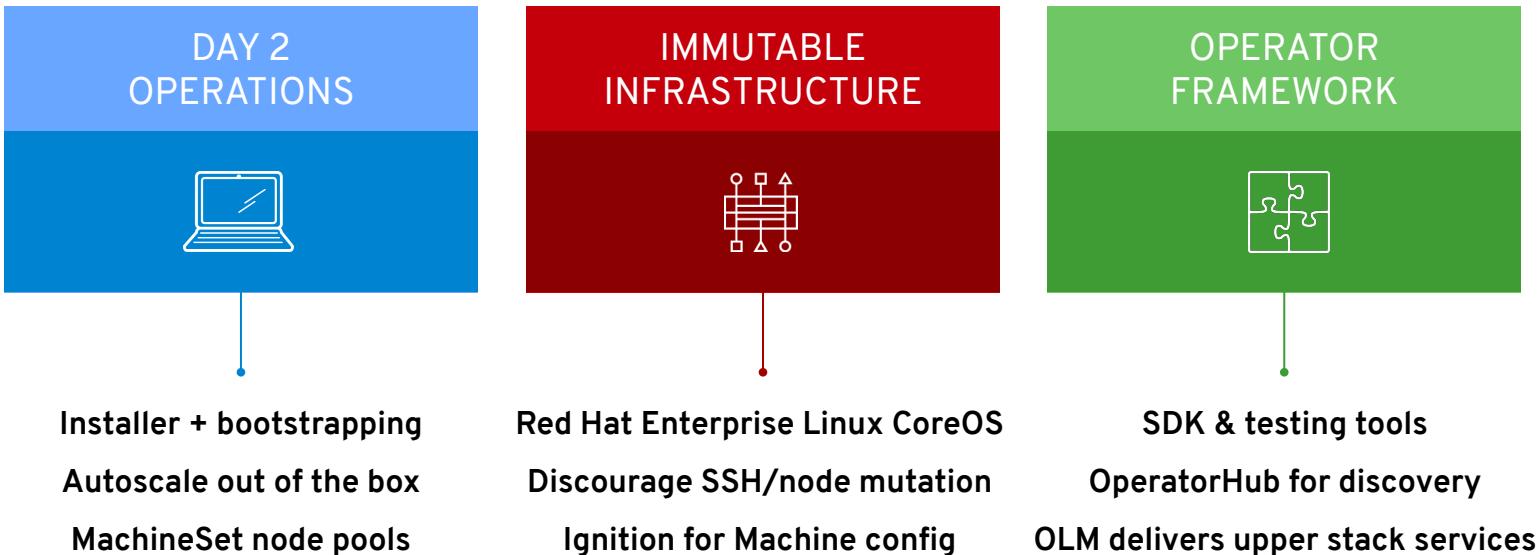
Best Developer Experience



2019 Roadmap

Q2 CY2019 OpenShift 4.1		Q3 CY2019 OpenShift 4.2		Q4 CY19/Q1 CY20 OpenShift 4.3	
HOSTED	HOSTED	HOSTED	HOSTED	HOSTED	HOSTED
PLATFORM	PLATFORM	PLATFORM	APP	APP	PLATFORM
APP	APP	APP	DEV	DEV	APP
HOSTED	HOSTED	HOSTED	HOSTED	HOSTED	HOSTED
<ul style="list-style-type: none">• OpenShift Serverless (Knative) - DP• OpenShift Pipelines (Tekton) Dev Preview• CodeReady Workspaces• CodeReady Containers Alpha• Developer CLI (odo) Beta		<ul style="list-style-type: none">• Developer Console GA• OpenShift Serverless (Knative) - TP• OpenShift Pipelines (Tekton) Tech Preview• CodeReady Containers GA• Developer CLI (odo) GA	<ul style="list-style-type: none">• Kubernetes 1.13 with CRI-O runtime• RHEL CoreOS, RHEL7• Automated Installer for AWS• Pre-existing Infra Installer for Bare Metal, VMware, AWS• Automated, one-click updates• Multus (Kubernetes multi-network)• Quay v3	<ul style="list-style-type: none">• GPU metering• OperatorHub Enhancements• Operator Deployment Field Forms• Application Binding with Operators• Application Migration Console	<ul style="list-style-type: none">• Kubernetes 1.15 w/ CRI-O runtime• Automated Installer for IBM Cloud, Alibaba, RHV, Bare Metal Hardware Appliance• Pre-existing Infra Installer for Azure, OSP, GCP• OVN Tech Preview• FIPS• Federation Workload API• Automated App cert rotation• OpenShift Container Storage 4.2
<ul style="list-style-type: none">• cloud.redhat.com - Multi-Cluster Mgmt• OCP Cluster Subscription Management• Azure Red Hat OpenShift• OpenShift Dedicated consumption pricing		<ul style="list-style-type: none">• cloud.redhat.com - Multi-Cluster Deployment• Proactive Support Operator	<ul style="list-style-type: none">• Metering for Services• Windows Containers		<ul style="list-style-type: none">• cloud.redhat.com - Subscription Mgmt Consumption Improvements

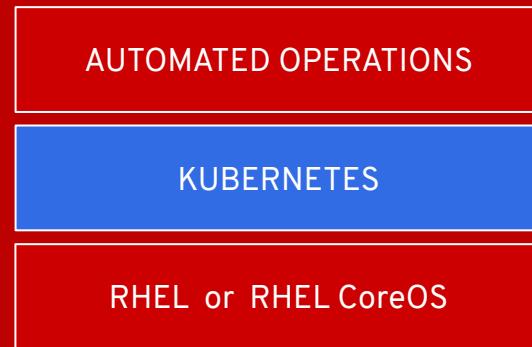
OpenShift 4.1 Workstreams Lifecycle



The New Platform Boundary

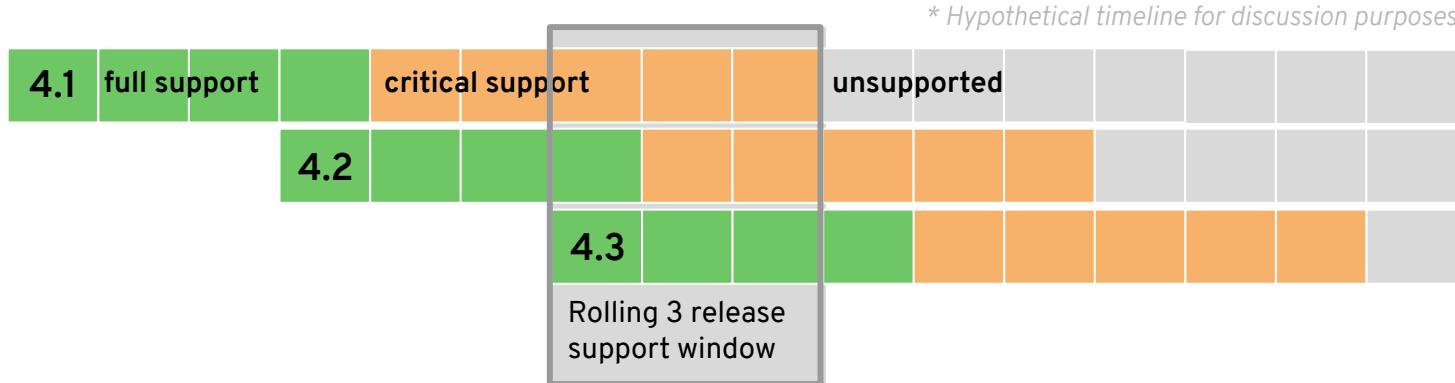
OpenShift 4 is aware of the entire infrastructure and
brings the Operating System under management

OpenShift & Kubernetes
certificates & security settings
container runtime config
allowed maintenance windows
software defined networking



kernel modules
device drivers
network interfaces
security groups
Nodes & Operating System

OpenShift 4 Lifecycle



New model

Release based, not date based. Rolling three release window for support.

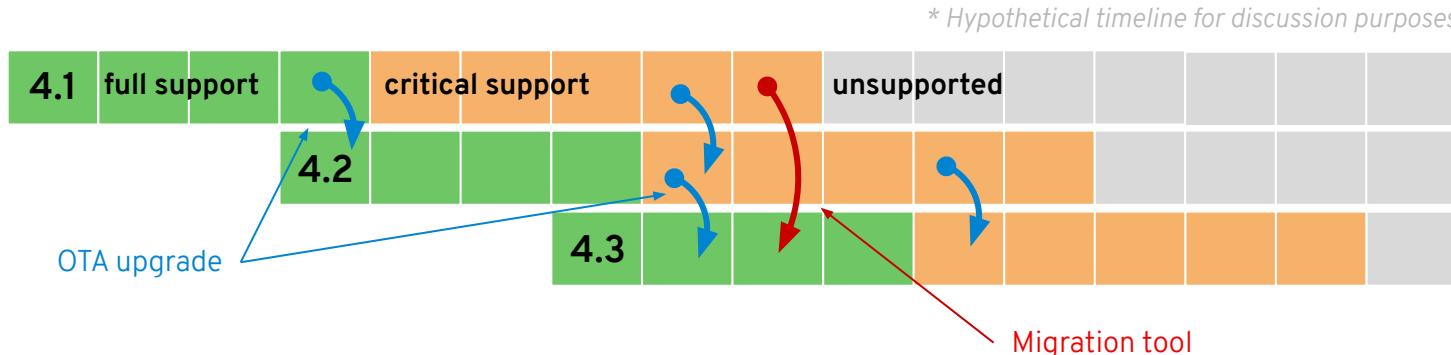
The overall 4 series will be supported for at least three years

- Minimum two years full support (likely more)
- One year maintenance past the end of full support

EUS release planned

Supported for 14 months of critical bug and critical security fixes instead of the normal 5 months. If you stay on the EUS for its entire life, you must use the application migration tooling to move to a new cluster

OpenShift 4 Upgrades



OTA Upgrades

Works between two minor releases in a serial manner.

Happy path = migrate through each version

On a regular cadence, migrate to the next supported version.

Optional path = migration tooling

If you fall more than two releases behind, you must use the application migration tooling to move to a new cluster.

Current minor release

Full support for all bugs and security issues
1 month full support overlap with next release to aid migrations

Previous minor release

Fixes for critical bugs and security issues for 5 months

Installation Experiences

OPENSIFT CONTAINER PLATFORM

Full Stack Automated

Simplified opinionated “Best Practices” for cluster provisioning

Fully automated installation and updates including host container OS.



Red Hat
Enterprise Linux
CoreOS

Pre-existing Infrastructure

Customer managed resources & infrastructure provisioning

Plug into existing DNS and security boundaries



Red Hat
Enterprise Linux
CoreOS



Red Hat
Enterprise Linux

HOSTED OPENSIFT

Azure Red Hat OpenShift

Deploy directly from the Azure console. Jointly managed by Red Hat and Microsoft Azure engineers.

OpenShift Dedicated

Get a powerful cluster, fully Managed by Red Hat engineers and support.

4.1 Supported Providers*

Full Stack Automated



Pre-existing Infrastructure



Bare Metal



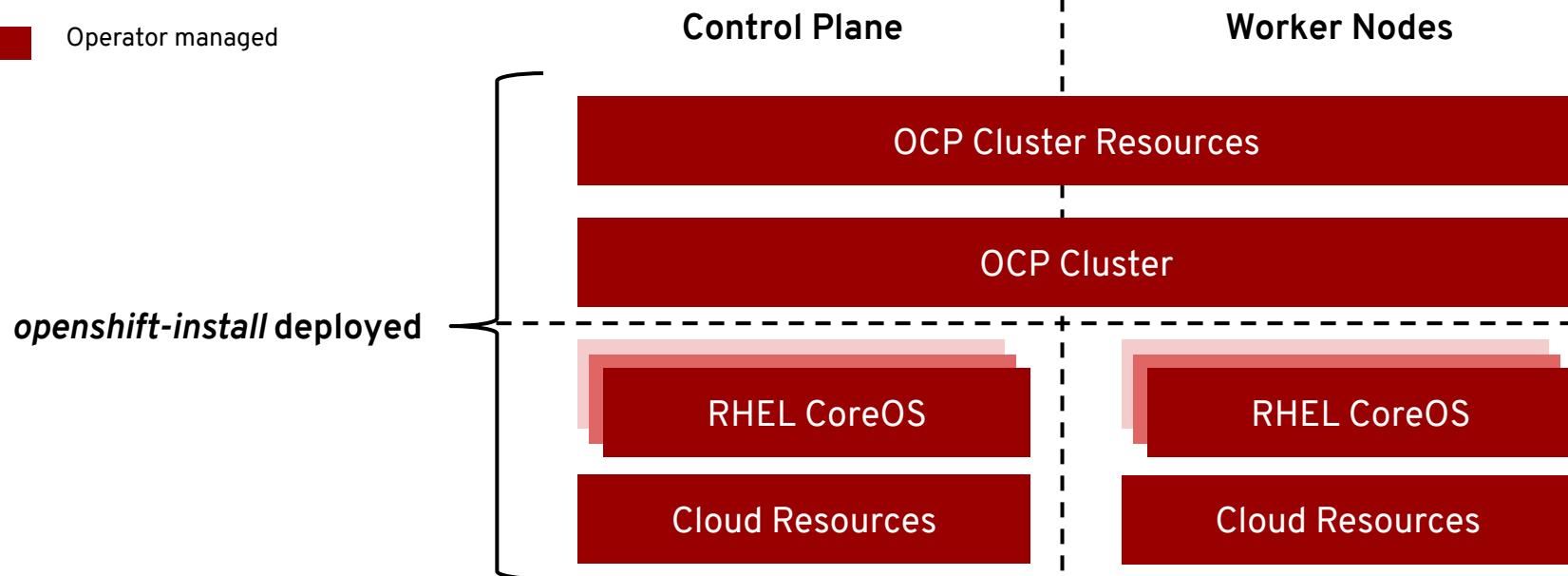
* Requires Internet connectivity; support for cluster-wide proxy
& disconnected installation/updating tentatively planned for 4.2

Full Stack Automated Deployments

Day 1: openshift-install - Day 2: Operators

User managed

Operator managed



Deploying to Pre-existing Infrastructure

Day 1: openshift-install - Day 2: Operators + Customer Managed Infra & Workers

User managed

Operator managed

openshift-install deployed

Note: Control plane nodes must run RHEL CoreOS!

Customer deployed

Control Plane

Worker Nodes

OCP Cluster Resources

OCP Cluster

RHEL CoreOS

Cloud Resources

RHEL CoreOS

RHEL 7

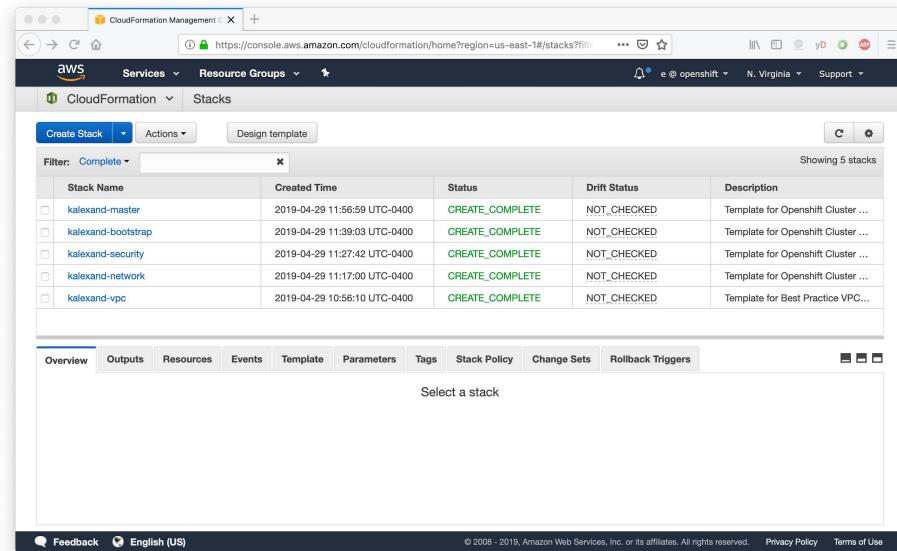
Cloud Resources

AWS: Deploying to Pre-existing Infrastructure

Deploy OpenShift on customized AWS infrastructure

Install OpenShift clusters on user-managed AWS infrastructure.

- Customers are responsible for provisioning:
 - VPC/Subnets, Route53 Zone & DNS entries, Load Balancers & listeners, Security groups, IAM roles, S3 bucket, and EC2 instances for Bootstrap, Master, and Worker nodes
 - Public hosted zone in Route53 in the same account as your cluster; ensure the zone is "authoritative" for the domain
- To make AWS infrastructure provisioning easier, example AWS CloudFormation templates have been included as a guide for how to prepare your environment for OpenShift deployments
 - While templates are only intended to provide basic functionality, they can be further enhanced based on your operation needs or even automated using orchestration technologies like Ansible
- Additionally, you will likely need to review and increase the service limits of your AWS account
- [See the OpenShift documentation for more details](#)



Comparison between deployments methods

	Full Stack Automation	Pre-existing Infrastructure
Build Network	Installer	User
Setup Load Balancers	Installer	User
Configure DNS	Installer	User
Hardware/VM Provisioning	Installer	User
OS Installation	Installer	User
Generate Ignition Configs	Installer	Installer
OS Support	Installer: RHEL CoreOS	User: RHEL CoreOS + RHEL 7
Node Provisioning / Autoscaling	Yes	Only for providers with OpenShift Machine API support
Customization & Provider Support	Best Practices: AWS	Yes: AWS, Bare Metal, & VMware

RHEL 7 Worker/Infra Nodes

Add RHEL 7.6 machines with Ansible

Use openshift-ansible to prepare, configure and join your RHEL 7 nodes to the cluster. After you have a functional control plane, nodes can be added to the cluster with the `scaleup` playbook.

- Pending certificates signing request (CSRs) for each RHEL machine must be approved before joining cluster
- [See the OpenShift documentation for more details](#)

Mixed clusters of RHEL 7 and RHEL CoreOS are ok

RHEL CoreOS is mandatory for the control plane, but mixed clusters of RHEL 7.6 and RHEL CoreOS are supported for any other node pools.

RHEL 8 is not yet supported for worker/infra nodes

Support will come in a later 4.x release

Upgrading OpenShift node components

With the upgrade playbook, RHEL 7 OpenShift components can be upgraded. Optionally, pre/post hooks are also available for performing custom tasks.

RHEL admins are responsible for:

Keeping host inventory up to date

Refresh your list of hosts before an upgrade, to make sure no machines are missed

Defining Ansible hooks

Run playbooks that will cordon/uncordon machines, along with any pre/post upgrade actions

Updating RHEL RPM content

Security, performance and regular updates from Red Hat

Partitioning disks

Configure, maintain and health check your disks

Configuring network interfaces

Configure, secure and maintain settings within your data center's specifications

Red Hat Enterprise Linux

RED HAT® ENTERPRISE LINUX®	
BENEFITS	General Purpose OS
	<ul style="list-style-type: none">• 10+ year enterprise life cycle• Industry standard security• High performance on any infrastructure• Customizable and compatible with wide ecosystem of partner solutions
WHEN TO USE	When customization and integration with additional solutions is required
RED HAT® ENTERPRISE LINUX CoreOS	
	<ul style="list-style-type: none">• Self-managing, over-the-air updates• Immutable and tightly integrated with OpenShift• Host isolation is enforced via Containers• Optimized performance on popular infrastructure
WHEN TO USE	When cloud-native, hands-free operations are a top priority

Immutable Operating System

Red Hat Enterprise Linux CoreOS is versioned with OpenShift

CoreOS is tested and shipped in conjunction with the platform. Red Hat runs thousands of tests against these configurations.

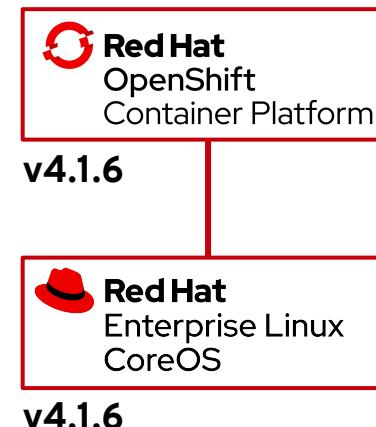
Red Hat Enterprise Linux CoreOS is managed by the cluster

The Operating system is operated as part of the cluster, with the config for components managed by Machine Config Operator:

- CRI-O config
- Kubelet config
- Authorized registries
- SSH config

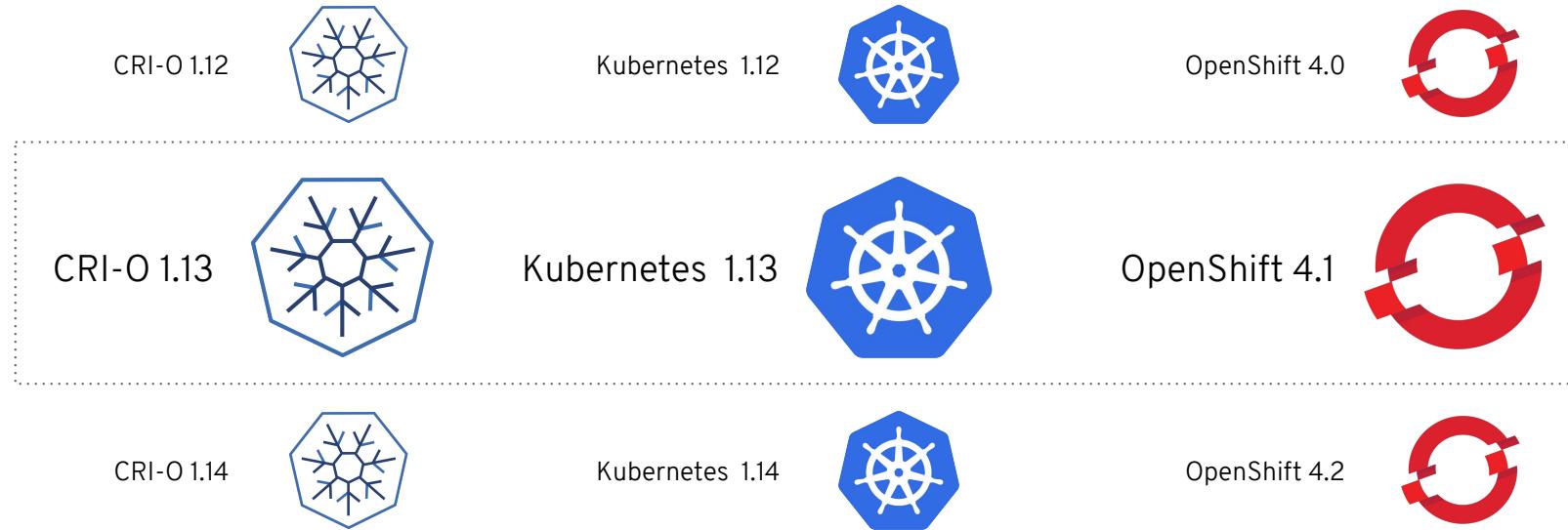
RHEL CoreOS admins are responsible for:

Nothing. 



CRI-O Support in OpenShift

CRI-O tracks and versions identical to Kubernetes, simplifying support permutations

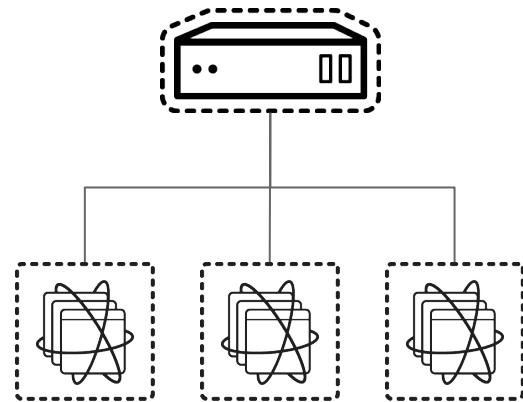


HAProxy Optimization

HAProxy Large Performance Increase

OCP 4.1 deploys 2 router replicas by default (improving the observed performance ~2x), and sets 4 router threads by default (also improving observed performance another ~2x).

We increased these defaults for HAProxy so that the cluster can serve more routes.

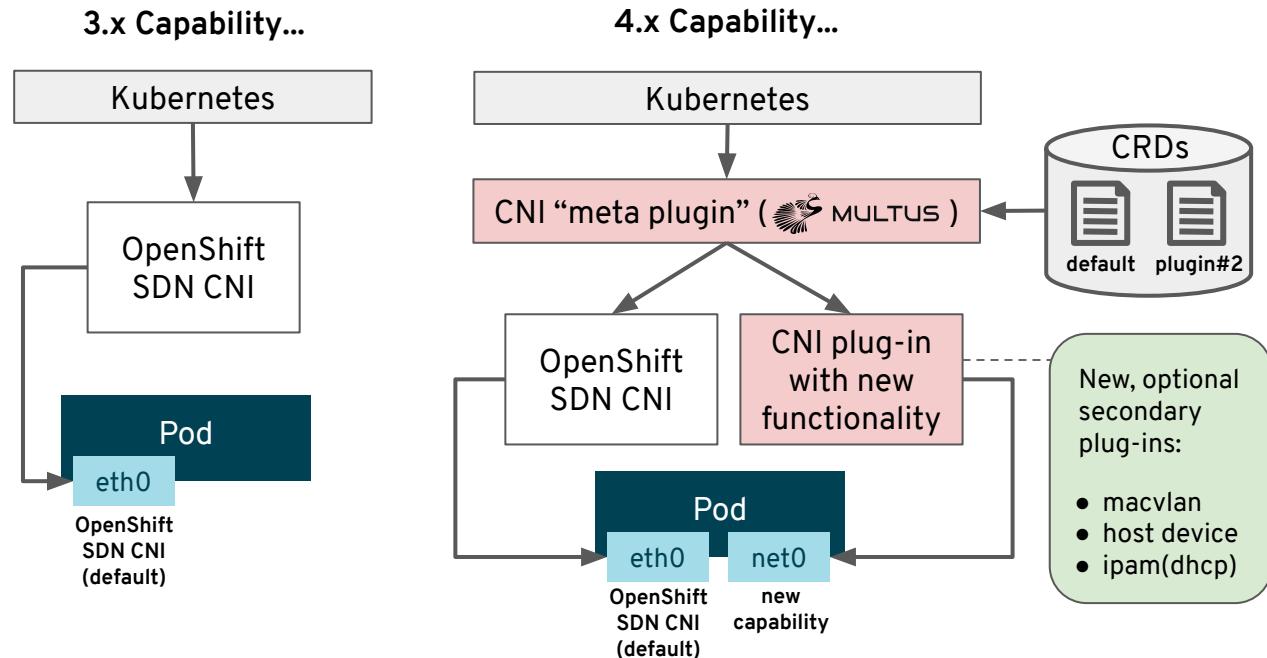


Networking Plug-ins

Multus Enables Multiple Networks & New Functionality to Existing Networking

The Multus CNI “meta plugin” for Kubernetes enables one to create multiple network interfaces per pod, and assign a CNI plugin to each interface created.

1. Create pod annotation(s) to call out a list of intended network attachments...
2. ...each pointing to CNI network configurations packed inside CRD objects

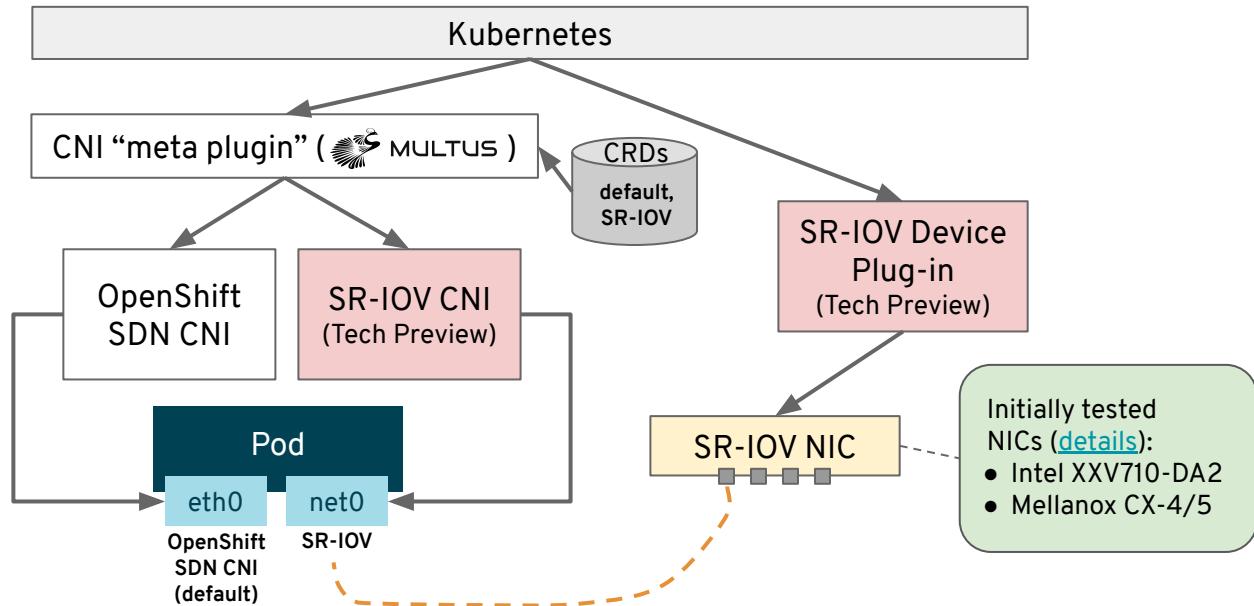


High-Performance Networking (Tech Preview)

Approach Line-Rate Performance to the Pod

OCP 4.1 includes the capability to use specific SR-IOV hardware on cluster nodes to brings near-line rate network performance to cluster pods.

Configuring SR-IOV



Storage

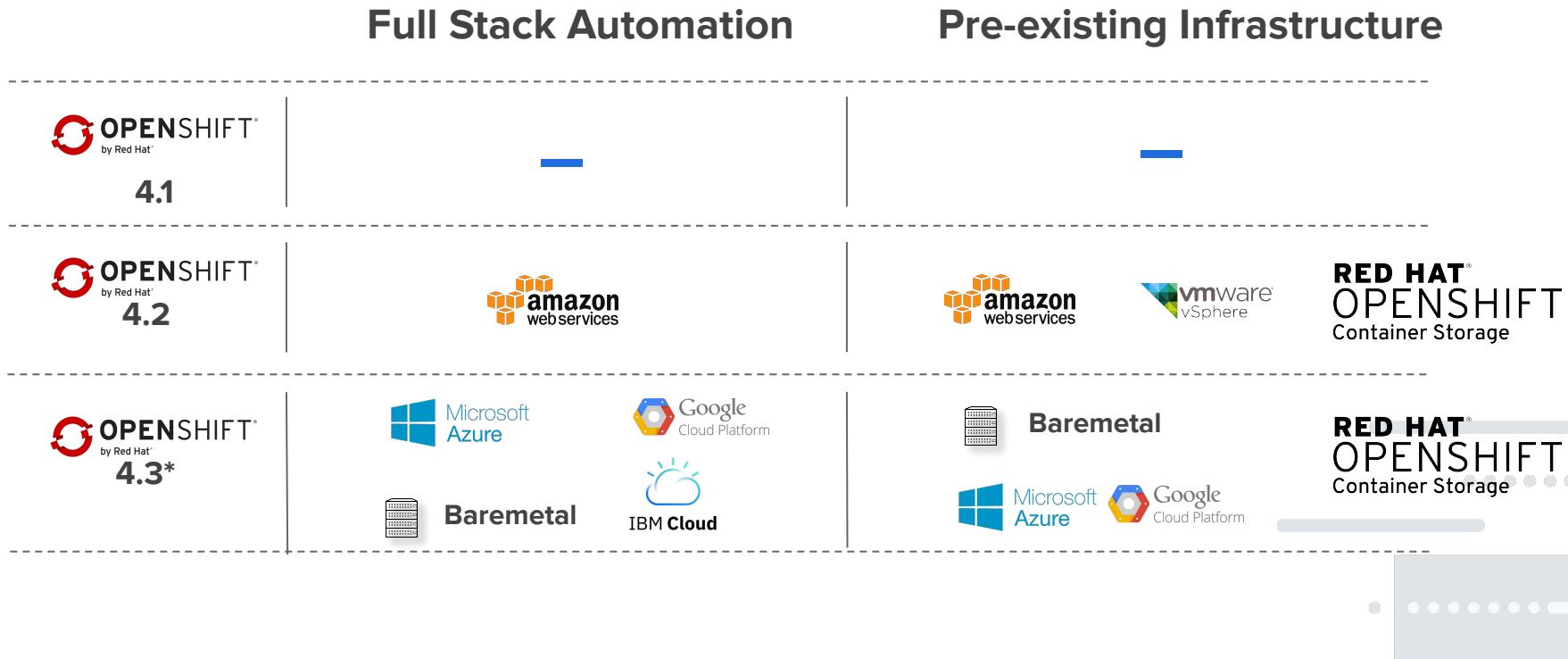
Storage Focus

- Cluster Storage Operator
 - Sets up the default storage class
 - Looks through cloud provider and sets up the correct storage class
- Drivers themselves remain in-tree for now
- Focus has been on RHEL7 and RHCOS8 validating:
 - AWS EBS
 - vSphere Default Storage Class

Supported	Dev Preview
AWS EBS	Snapshot*
VMware vSphere Disk	EFS*
NFS	Local Volume*
iSCSI	Raw Block
Fibre Channel	
HostPath	

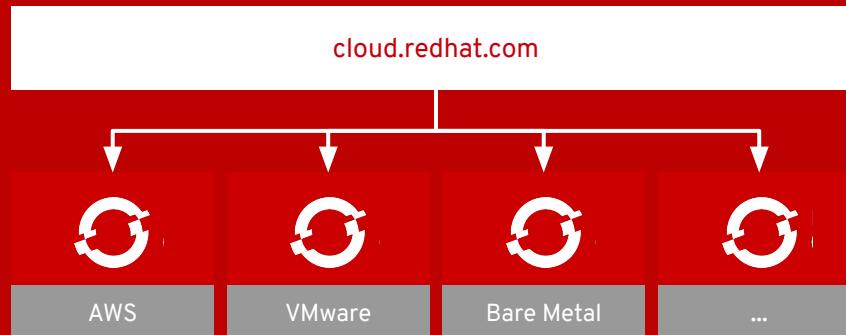
* via external provisioner

PROVIDER ROADMAP FOR OPENSOURCE CONTAINER STORAGE 4



Cloud-like Simplicity, Everywhere

Full-stack automated operations across any on-premises,
cloud, or hybrid infrastructure



OpenShift Cluster Manager on cloud.redhat.com

Automatic registration of OpenShift clusters

View cluster versions and capacity in one place, no matter what infrastructure you are running on. Integrated with RHSM.

OpenShift Dedicated cluster management

Self-service cluster deployment, scaling, and management for OpenShift Dedicated coming soon.

Azure Red Hat OpenShift

Information about these clusters will be coming at a later date.

Hosted in the United States

Other geographies may come later. You can [opt-out](#) too.

The screenshot shows the Red Hat OpenShift Cluster Manager interface. At the top, there's a header with the Red Hat logo and 'RED HAT OPENSHIFT'. Below it, a 'Clusters' section has a 'Create Cluster' button. A table lists two clusters: 'prd-west-2100' and 'prd-west-2104', both marked as 'Self-managed'. To the right, a detailed view for 'prd-0501-2100' is shown, with tabs for 'Overview' and 'Resource Usage'. Under 'Resource Usage', there are two donut charts: one for CPU ('1.58 Cores used') and one for MEMORY ('12.38 GiB used'). The interface also includes 'Launch Console', 'Admin Credentials', and 'Actions' buttons.

OpenShift Subscription Management

Moves from node management to cluster management

Entitle clusters and not nodes. Nodes too dynamic. We do not block on usage. Requires telemeter opt-in.

Dynamically adds and removes nodes

OpenShift Cluster Manager (OCM) will dynamically add and remove nodes from your subscription allocations to the cluster in 24 hour intervals. This will move to instantaneous across the next several releases.

 **This cluster is overcommitting resources.**
Please check the [Red Hat Customer Portal](#) to make sure all clusters are covered by subscriptions and [contact sales](#) if required.
Last checked: 5/19/2019, 2:20:00 AM 

OCP 4 Subscription Management

Generally Available

Product Manager: Jake Lucky

Connected to the same backend as Subscription Portal and Satellite

Allocation numbers you see at [cloud.redhat.com](#) for OCP can be also seen on the subscription portal at [access.redhat.com](#)

Removes OCP Infrastructure from the count

OCM will figure out which pods are your OCP infra pods and subtract out their usage from your core count so you are not charged.

Systems
Below is a list of systems for this account.

Filter by Name, UUID, or Cloud Provider

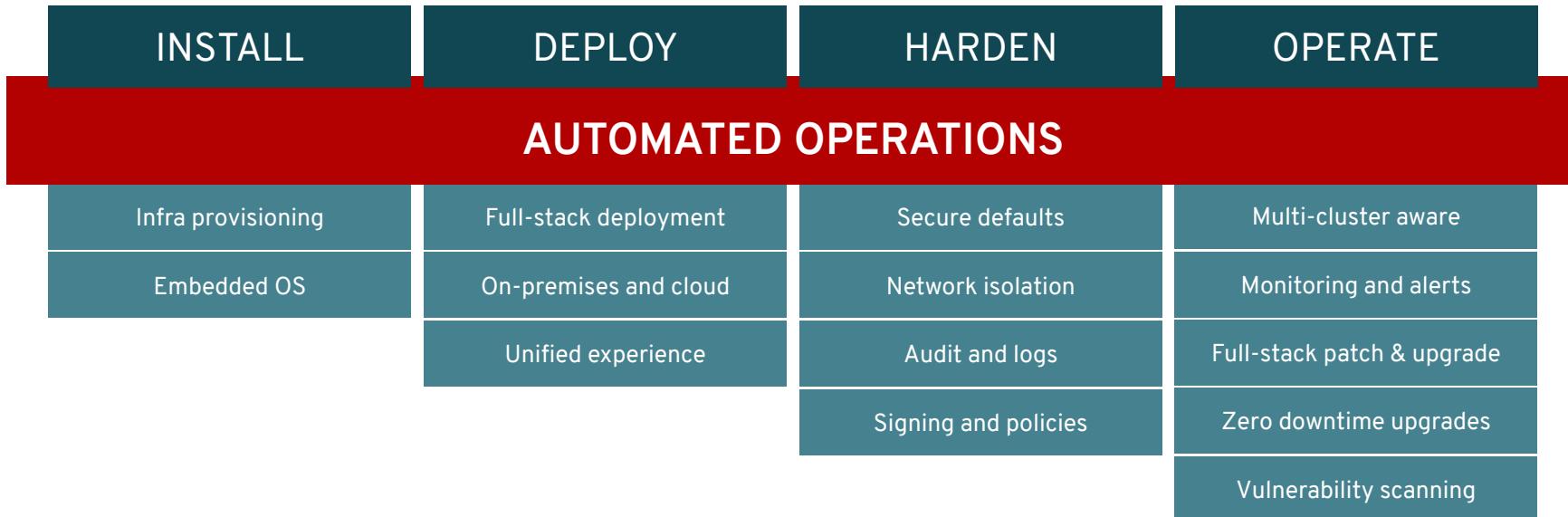
<input type="checkbox"/>	Name
<input checked="" type="checkbox"/>	eb121bf1-aa59-422a-a417-2e5fcfa7ffd4

Show 100 entries



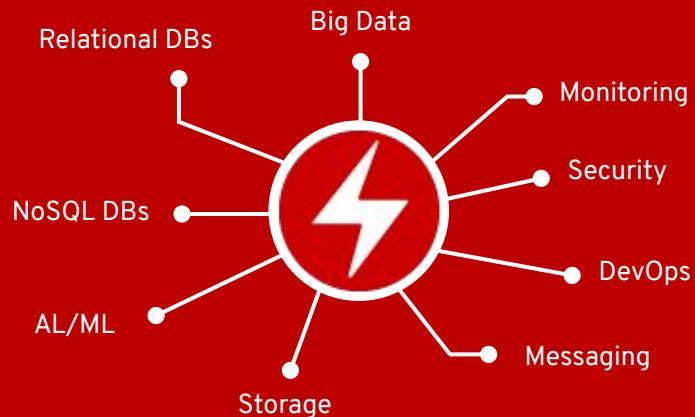
Automated Container Operations

Fully automated day-1 and day-2 operations



A broad ecosystem of workloads

Operator-backed services allow for a
SaaS experience on your own infrastructure



Red Hat Certified Operators

DEVOPS



APM



DATA SERVICES



DATABASE



SECURITY



STORAGE



OperatorHub data sources

Requires an online cluster

- For 4.1, the cluster must have connectivity to the internet
- Later 4.x releases will add offline capabilities

Operator Metadata

- Stored in quay.io
- Fetches channels and available versions for each Operator

Container Images

- Red Hat products and certified partners come from RHCC
- Community content comes from a variety of registries

The screenshot shows the OperatorHub interface within a web browser. The top navigation bar includes a dropdown for 'Project: default' and a search bar. Below this is a section titled 'OperatorHub' with a sub-section 'Discover Operators from the Kubernetes community and Red Hat partners, curated by Red Hat. Operators can be installed on your clusters to provide optional add-ons and shared services to your developers. Once installed appear in the Developer Catalog, providing a self-service experience.' A sidebar on the left lists categories such as All Items, AI/Machine Learning, Application Monitoring, Big Data, Database, Developer Tools, Integration & Delivery, Logging & Tracing, Monitoring, Networking, OpenShift Optional, Security, Security Policy Management, Storage, Streaming & Messaging, and Other. Below these are filters for INSTALL STATE (Installed 3), PROVIDER TYPE (Red Hat 13, Certified 16, Community 25), and PROVIDER (Red Hat 13, AppDynamics 1, Aqua Security 1). The main area displays a grid of operator cards, each with a thumbnail, name, provider, and a brief description. Some operators are marked as 'Community'. The cards include: AMQ Streams (provided by Red Hat, Inc.), AppDynamics ClusterAgent (provided by AppDynamics LLC), Aqua Security Operator (provided by Aqua Security, Inc.), Automation Broker Operator (provided by Red Hat, Inc.), Camel-K Operator (provided by The Apache Software Foundation), CockroachDB (provided by Helm Community), Community Jaeger Operator (provided by CNCF), Couchbase Operator (provided by Couchbase), Crunchy PostgreSQL Enterprise (provided by Crunchy Data), Descheduler (provided by Red Hat), Elasticsearch Operator (provided by Red Hat, Inc.), Federation (provided by Red Hat), FederatorAI (provided by ProphetStar Data Services, Inc.), and Hazelcast Operator (provided by Hazelcast, Inc.).

Operators as a First-Class Citizen



Operator Lifecycle Management

Operator Catalog

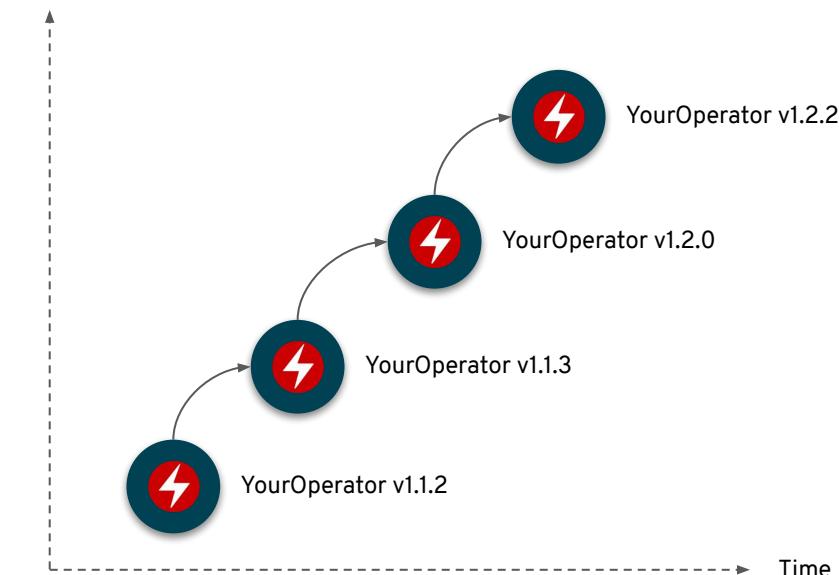


 **OPERATOR LIFECYCLE MANAGER**

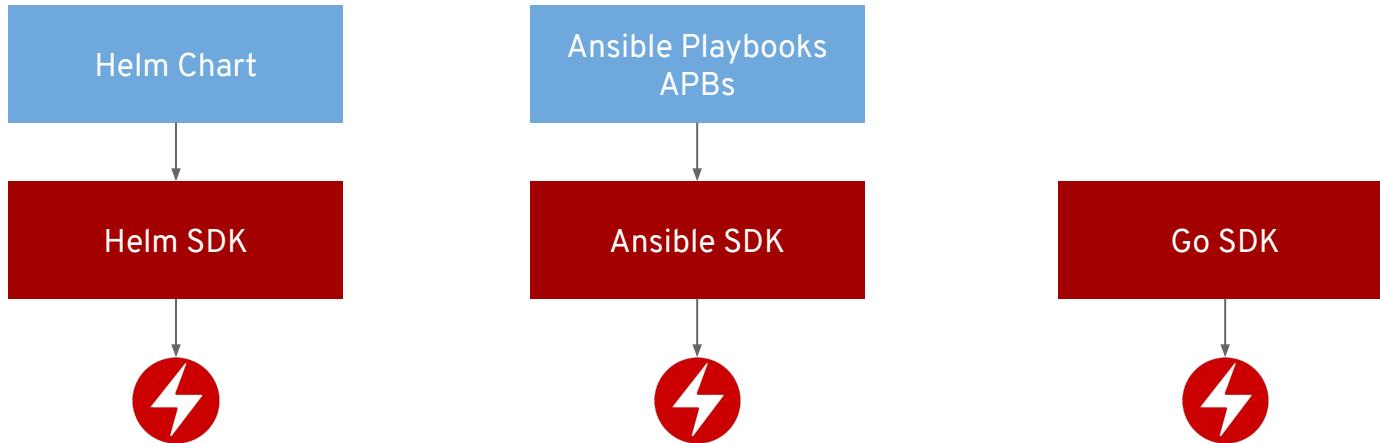
Subscription for
YourOperator



Version

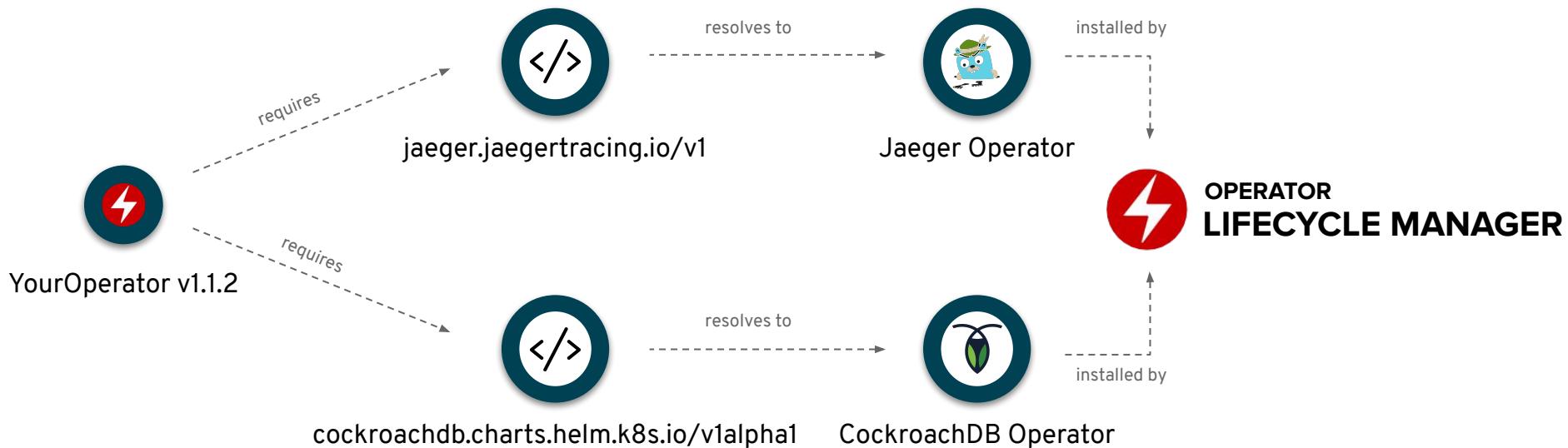


Build Operators for your apps



Depend on other Operators

Operator Framework Dependency Graphs



Red Hat Middleware

Same experience as 3.x for developers

- Admins install Service Brokers via OperatorHub
- Devs consume via Developer Catalog

Transitioning to Operators

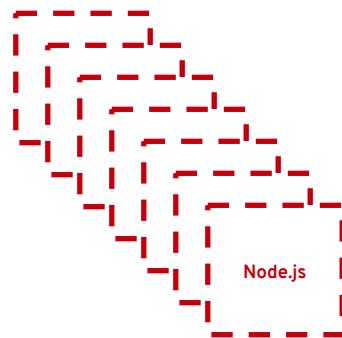
- First Operators are out
 - AMQ Streams (Kafka)
 - Fuse Online
 - CodeReady Workspaces
 - Business Automation (Tech Preview)
 - Data Grid
- More to follow in 2019
 - Red Hat Integration - July:
 - AMQ Interconnect, AMQ Broker
 - 3scale API Management
 - Apicurio API Designer
 - Business Automation - July (GA)
 - Red Hat Application Runtimes
 - MW Component Operator - July

Red Hat Universal Base Image

Enable an ecosystem of freely distributable operators for Kubernetes/OpenShift



Base
Images

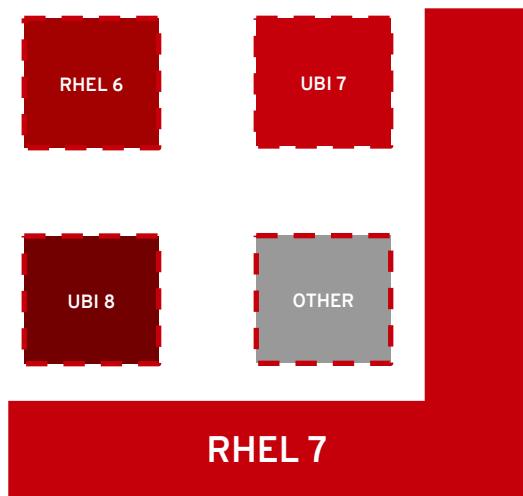


Pre-Built
Language
Images

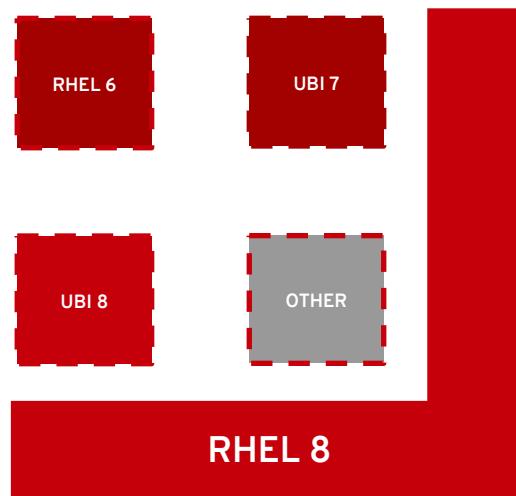


Package
Subset

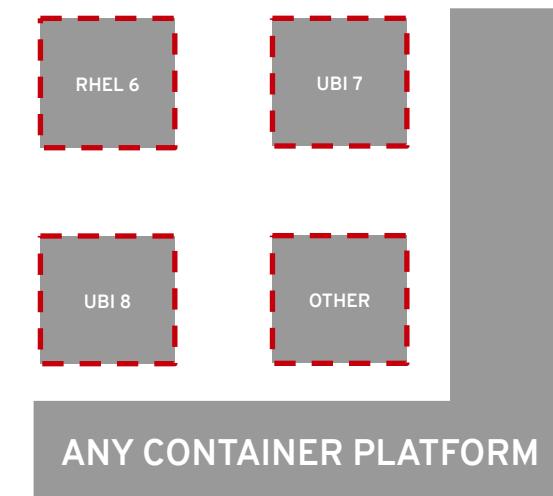
UBI and Host interactions



Red Hat Enterprise Linux 7



Red Hat Enterprise Linux 8



Like any community distro

Next wave of developer tools

OpenShift has all of the latest tools to make
your devs more productive



Cloud-native CI/CD with OpenShift Pipelines

- Based on Tekton Pipelines
- Runs serverless (no babysitting!)
- Containers as building blocks
- Deploy to multiple platforms
- Standard CRDs
- Pipelines portable to any Kubernetes
- Available in OperatorHub

Project: Default

Pipelines

NAME	LAST PIPELINE RUN	LAST RUN STATUS	TASK COMPLETED	LAST RUN STARTED
Pipeline-a	P Pipeline-run-a-1	Running	2 of 4	3 seconds ago
Pipeline-B	P Pipeline-run2	Running	3 of 5	2 minutes ago
Pipeline-C	P Pipeline-run23	Succeeded	3 of 3	4 minutes ago
Pipeline-D	P Pipeline-run4	Failed	2 of 4	6 minutes ago
Pipeline-E	P Pipeline-run34	Succeeded	2 of 2	8 minutes ago

Storage

Builds

Monitoring

Developer Tools

Integration & Delivery

Logging & Tracing

Monitoring

Networking

OpenShift Optional

Knative Serving Operator

provided by Red Hat

Knative Serving builds on Kubernetes to support deploying and serving of serverless applications and functions.

Community

OpenShift Pipelines Operator

provided by Red Hat, Inc.

OpenShift Pipelines is a cloud-native CI/CD solution for building pipelines using Tekton.

Dev Preview on OCP 4.1 (June)

Cloud-native CI/CD with OpenShift Pipelines

```
apiVersion: tekton.dev/v1alpha1
kind: Pipeline
metadata:
  name: funky-deploy-pipeline
spec:
  resources:
    ... # git, images, etc
  tasks:
    - name: build-app
      taskRef:
        name: mvn-build
    ...
    - name: build-image
      taskRef:
        name: s2i-java
    ...
    - name: deploy
      taskRef:
        name: openshift-cli
    ...
```

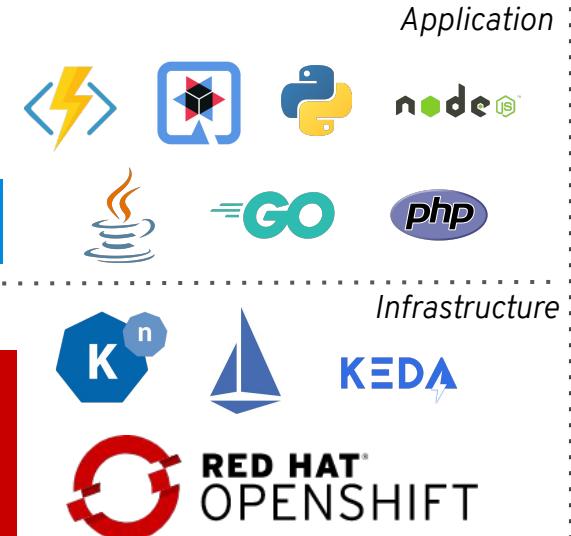
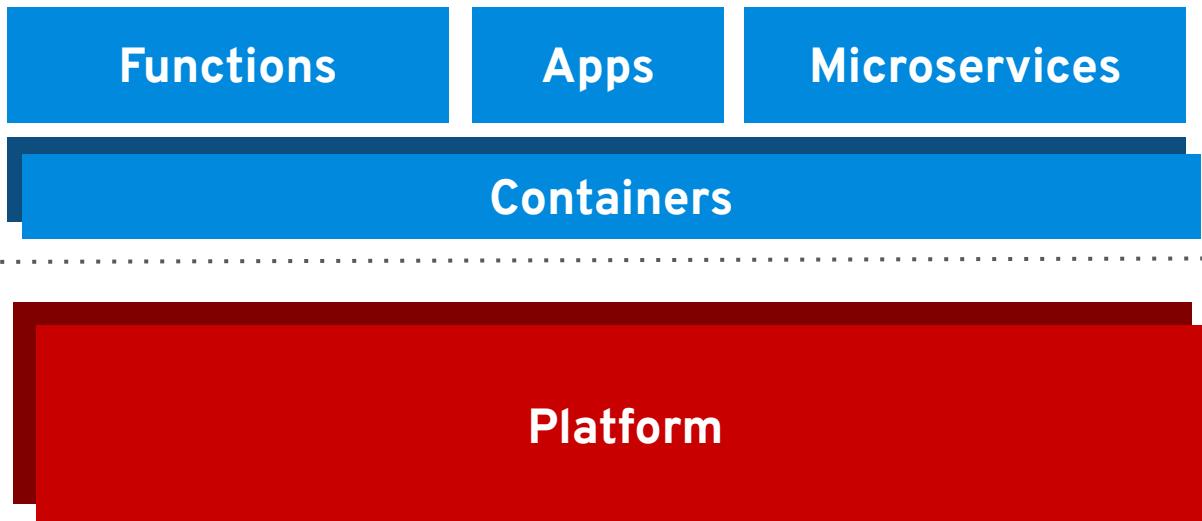
Inputs (e.g. git repo) to and outputs (e.g. images) from the pipeline

Provided task library:
s2i, buildah, oc, jib, kaniko, etc

User can create custom ones



OpenShift Serverless





OpenShift Serverless

Key Features

- Familiar to Kubernetes users. Native.
- Scale to 0 and autoscale to N based on demand
- Applications and functions. Any container workload.
- Powerful eventing model with multiple event sources.
- Operator available via OperatorHub
- Knative v0.6 (v1beta1 APIs)
- No vendor lock in

Learn more

<https://openshift.com/learn/topics/knative>

<http://bit.ly/knative-tutorial>

The screenshot shows the Red Hat OpenShift Container Platform interface. On the left is a sidebar with 'kiali' branding and links for Graph, Namespaces, Workloads, Services, Istio Config, and Distributed Tracing. The main content area has a header 'Red Hat OpenShift Container Platform' and a message 'You are logged in as a temporary administrative user. Update your password now.' Below this, a navigation bar includes 'Home', 'Projects', 'Status', 'Search', 'Events', 'Catalog', 'Developer Catalog', 'Installed Operators', 'OperatorHub', 'Operator Management', 'Workloads', 'Networking', 'Storage', 'Streaming & Messaging', and 'OpenShift Optional'. A search bar and a 'Filter by keyword...' button are also present. A sidebar on the right lists various operators: 'AMQ Streams' (provided by Red Hat, Inc.), 'Business Automation' (provided by Red Hat, Inc.), 'Red Hat AMQ Streams' (described as a massively scalable, distributed, and high performance data stream), 'Business Automation Operator' (deploy RHPAM/RHDM environments in the form of KieApp objects), 'Community' (operator for the Knative Serving Operator), 'Metering' (provided by Red Hat), and 'Chargeback and reporting tool to provide accountability for how resources are used across a cluster'. A specific card for the 'Knative Serving Operator' is highlighted with a red box. This card includes a 'Community' section, a description of the operator, and a status indicator showing it is 'Installed'. Below the sidebar is a detailed diagram of a Knative serving architecture, showing components like 'knative-ingressgateway', 'helloworld-go-00001', 'activator', 'knative-serving', 'autoscaler', and 'numpy-00001' connected via arrows. A traffic graph and a log viewer are also visible at the bottom of the diagram area.



```

apiVersion: apps/v1
kind: Deployment
metadata:
  name: frontend
  labels:
    app: guestbook
spec:
  selector:
    matchLabels:
      app: guestbook
      tier: frontend
  replicas: 1
  template:
    metadata:
      labels:
        app: guestbook
        tier: frontend
    spec:
      containers:
        - image: markusthoemmes/guestbook
          name: guestbook
          resources:
            requests:
              cpu: 100m
              memory: 100Mi
          env:
            - name: GET_HOSTS_FROM
              value: dns
          ports:
            - containerPort: 80

```

Kubernetes

```

---
apiVersion: v1
kind: Service
metadata:
  name: frontend-service
  labels:
    app: guestbook
    tier: frontend
spec:
  ports:
    - port: 80
  selector:
    app: guestbook
    tier: frontend
---
apiVersion: route.openshift.io/v1
kind: Route
metadata:
  name: frontend-route
spec:
  to:
    kind: Service
    name: frontend-service

```

53 lines

Knative

```

apiVersion: serving.knative.dev/v1alpha1
kind: Service
metadata:
  name: frontend
spec:
  template:
    metadata:
      labels:
        app: guestbook
        tier: frontend
    spec:
      containers:
        - image: markusthoemmes/guestbook
          resources:
            requests:
              cpu: 100m
              memory: 100Mi
          env:
            - name: GET_HOSTS_FROM
              value: dns
          ports:
            - containerPort: 80

```

22 lines



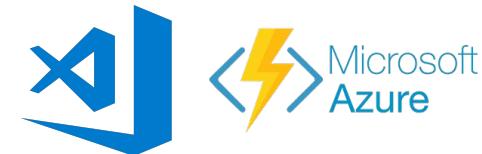
OpenShift Serverless + Azure Functions

Key Features

- Enable FaaS in OpenShift
- Familiar developer experience using VS Code and Azure CLI
- Polling based auto-scaling for Azure Queues, Kafka...
- Reuse Knative event sources, HTTP auto-scaling
- On premise or Any cloud.

Learn more

<https://github.com/kedacore/keda>



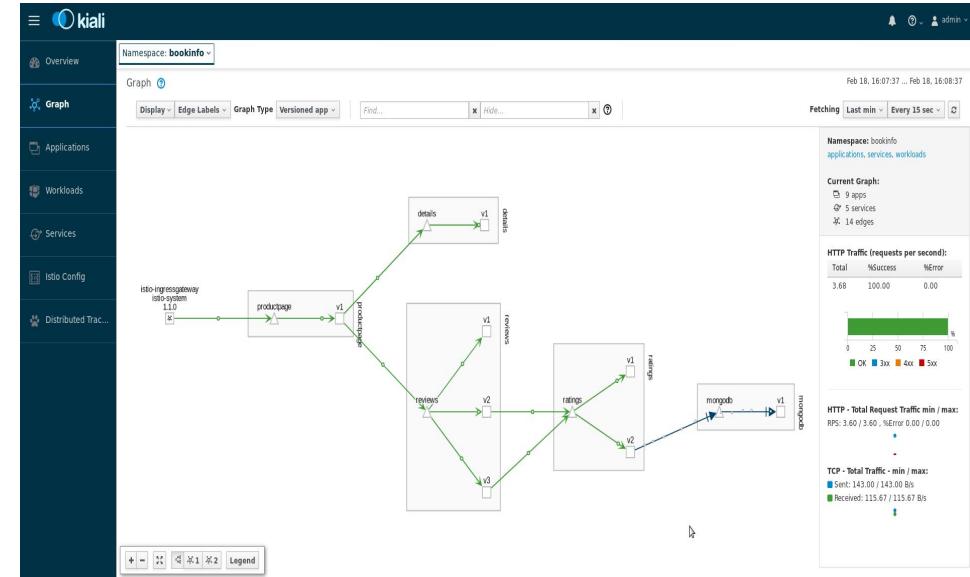
In partnership with



Red Hat Service Mesh

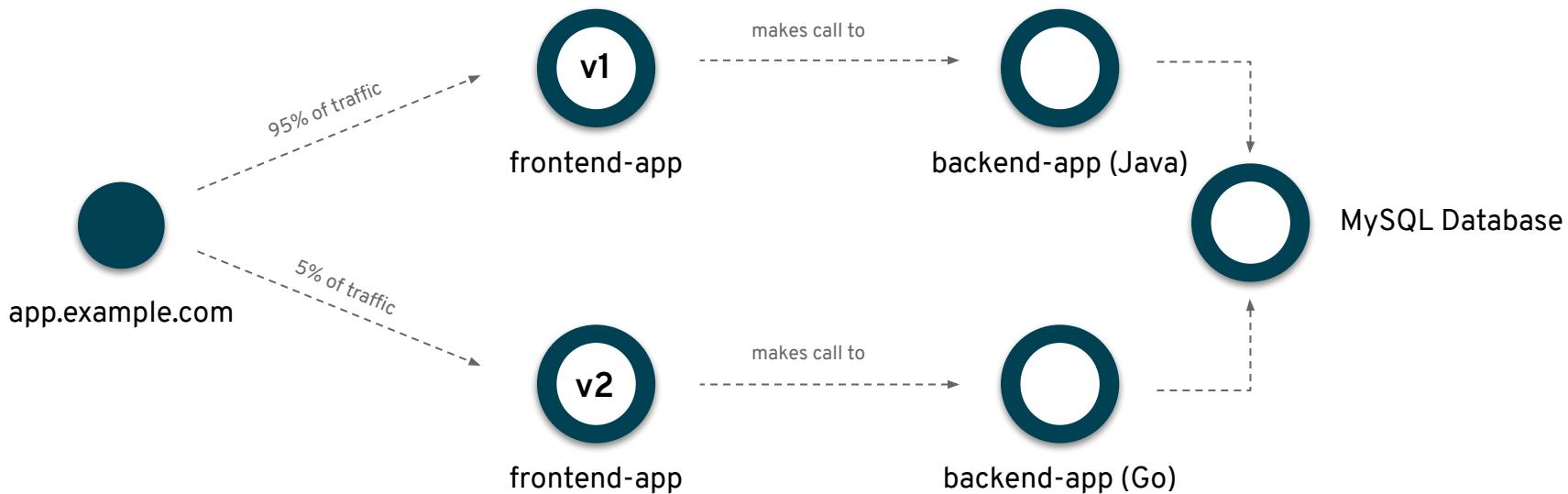
Key Features

- A dedicated network for service to service communications
- Observability and distributed tracing
- Policy-driven security
- Routing rules & chaos engineering
- Powerful visualization & monitoring
- Will be available via OperatorHub

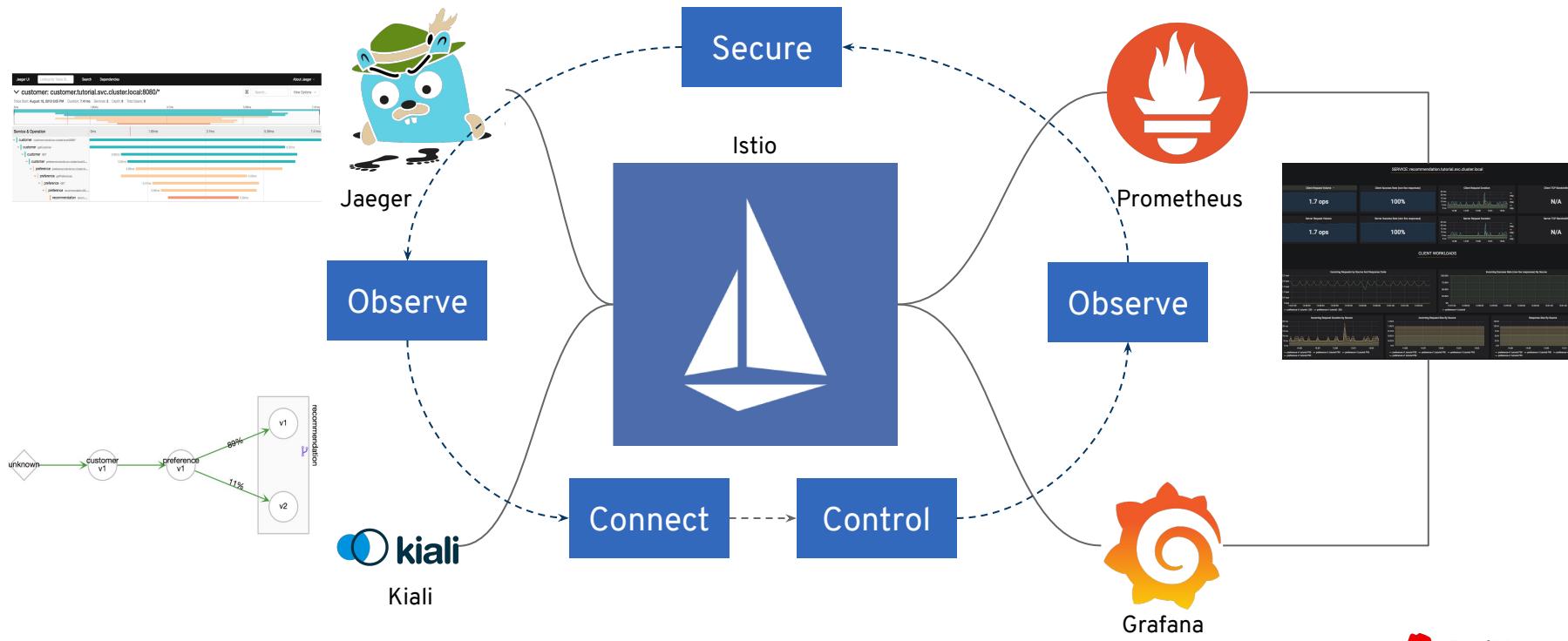


Control Traffic Flow

Control flow of traffic between application components



Red Hat Service Mesh

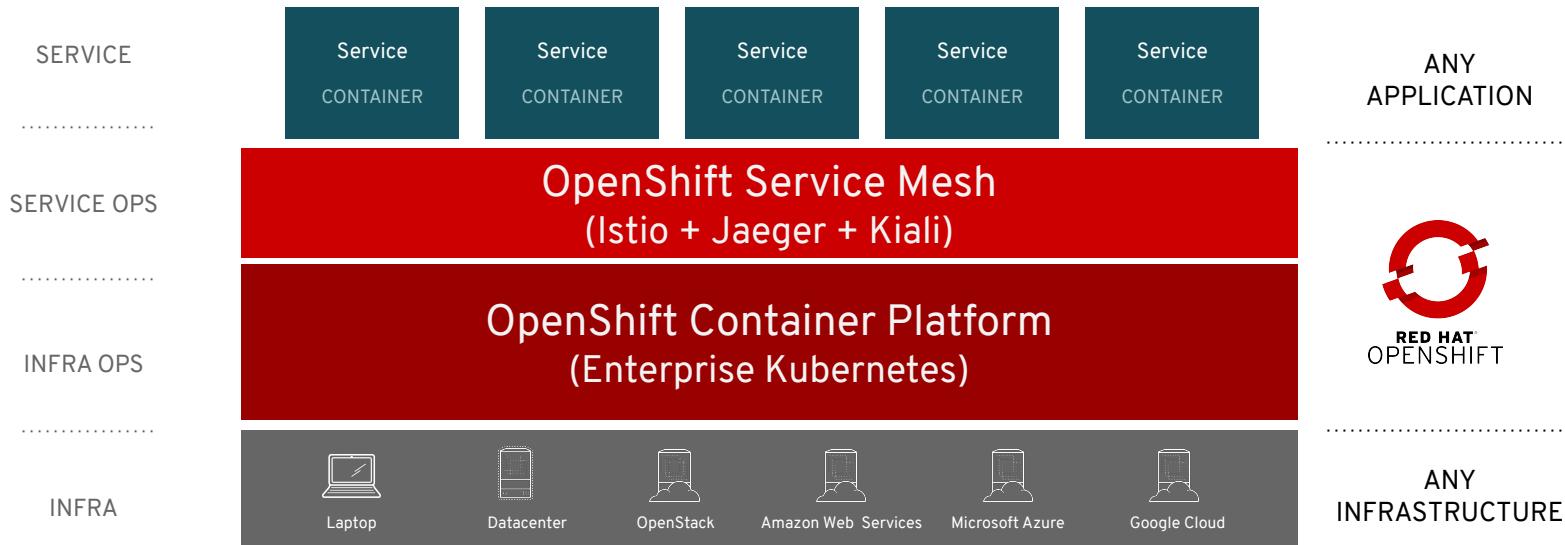


Product Manager: Brian 'redbeard' Harrington

Generally Available in Late August

Red Hat

Red Hat Service Mesh



CodeReady Workspaces

The collaborative OpenShift-Native IDE. Free for any customer of OpenShift Dedicated or OpenShift Container Platform.

Container Workspaces



Workspace replicas to end “works on my machine” and enable team collaboration.

DevOps Integrations



Reference developer workspaces from any issue, failed build, or git notification.

Protect Source Code

Full access to source code without any of it landing on hard-to-secure laptops.

Based on the open Eclipse Che project

Red Hat Linux and Application Infrastructure

Plugin model for extensibility

Serverless support (coming later)

Use It To: Replace VDI for devs, and enable true container-based DevOps.

OpenShift Dedicated

Dedicated with OpenShift 3

Available today, hosted on Amazon Web Services

Consumption based billing now available

Bring Your Own Cloud Account

Dedicated with OpenShift 4

Initial availability June 2019

Broader availability in fiscal Q2

OperatorHub

Red Hat products and certified Operators will be added in a curated catalog later in the year.

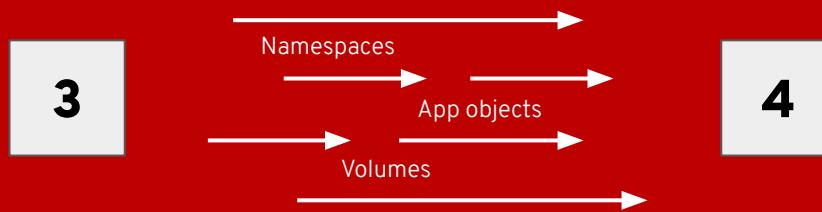
The Service Catalog and Brokers will not migrate to Dedicated due to their deprecation.

Connected to cloud.redhat.com

Clusters will appear beside other self-managed installs

Migrating to OpenShift 4

Tooling and advice for moving from OpenShift 3.x to 4.x



App migration experience

Using open source tooling based on Velero

Velero is an upstream project previously known as Ark. Check out [this video](#) if you are curious and want to get a sneak peek at our capabilities.

What's moved during a migration

- Namespaces
- Persistent Volumes (move or copy)
- All important resource objects (Deployments, StatefulSets, etc)

Available in OpenShift 4.2

Customers are anxious to get their hands on this, but we want to get it right. We would love to receive sample application workloads to test.

Product Manager: Maria Bracho

Not Available Yet

The screenshot shows the 'Migration Plan Wizard' interface. The top navigation bar says 'Create a migration plan'. The left sidebar has steps: 1 General, 2 Migration Source (which is selected), 3 Persistent Volumes, 4 Migration Targets, and 5 Results. The main area shows 'Source Cluster' set to 'Summit Demo Source Cluster'. Below that is a table titled 'Select projects to be migrated:' with two rows: 'robot-shop' (checked) and 'sandbox'. At the bottom, there's a table titled 'Migration Plans' with two entries:

Name	Migrations	Source	Target	Repository	Persistent Volumes	Last Status
demo plan	⌚ 2	Summit Demo Source Cluster	Target cluster	mydemobucket	2	Migrated Success
demo2	⌚ 2	Summit Demo Source Cluster	Target cluster	mydemobucket	2	Migrated Success

Why did we choose this migration strategy?

Reducing risk

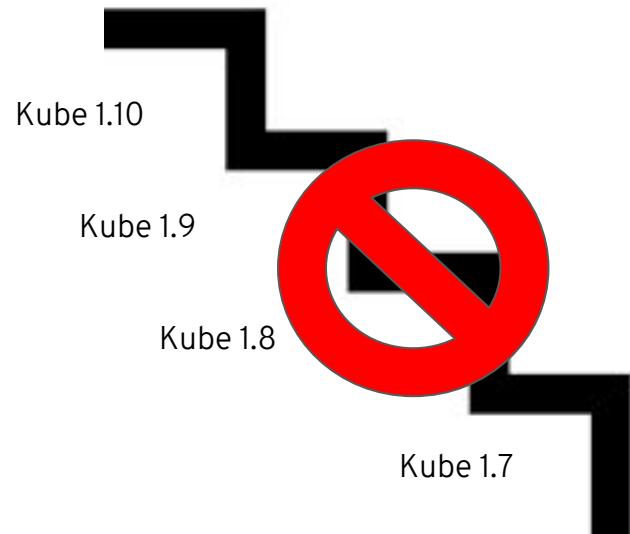
A ton of innovation went into OpenShift 4, and an in-place upgrade would have risk of failure in which there is no forwards or backwards remediation. It allows you to skip from 3.7/3.9/3.10/3.11 to 4.x. Skipping the need to install each one.

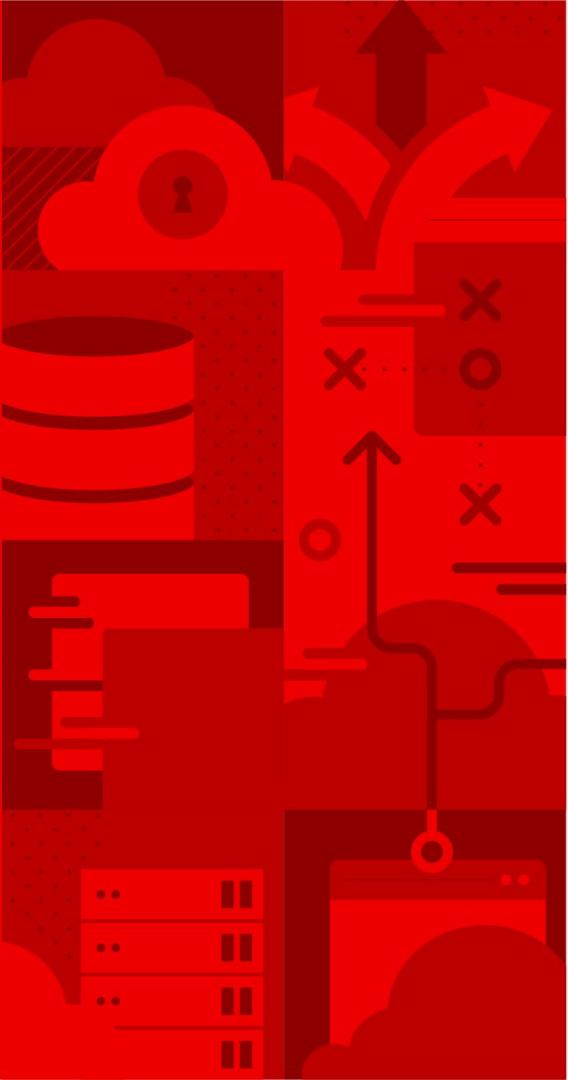
Useful for 4-to-4 migrations

A general migration tool is frequently requested and a better long term investment. Helps you build a foundation towards making your cluster investments less fragile.

Allows for staging

Stage a mock migration before doing it live, on a Project by Project basis. Extremely useful for success.





Questions?

 [linkedin.com/company/red-hat](https://www.linkedin.com/company/red-hat)

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