State of the Union, OpenShift Roadmap and Vision

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Vice President - Cloud Platform Services
October 16th 2018

Does IT Matter? - Circa 2003

Harvard Business Review

COSTS

IT Doesn't Matter

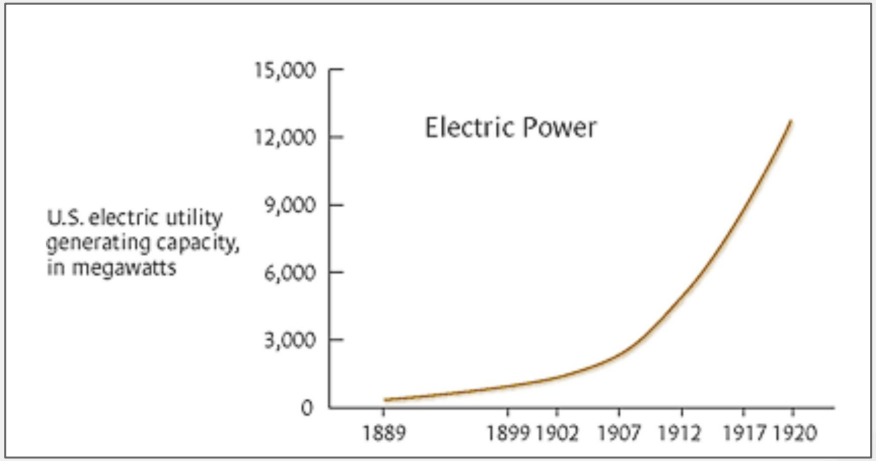
by Nicholas G. Carr

FROM THE MAY 2003 ISSUE

SAVE SHARE 2 COMMENT TEXT SIZE PRINT $8.95 BUY COPIES

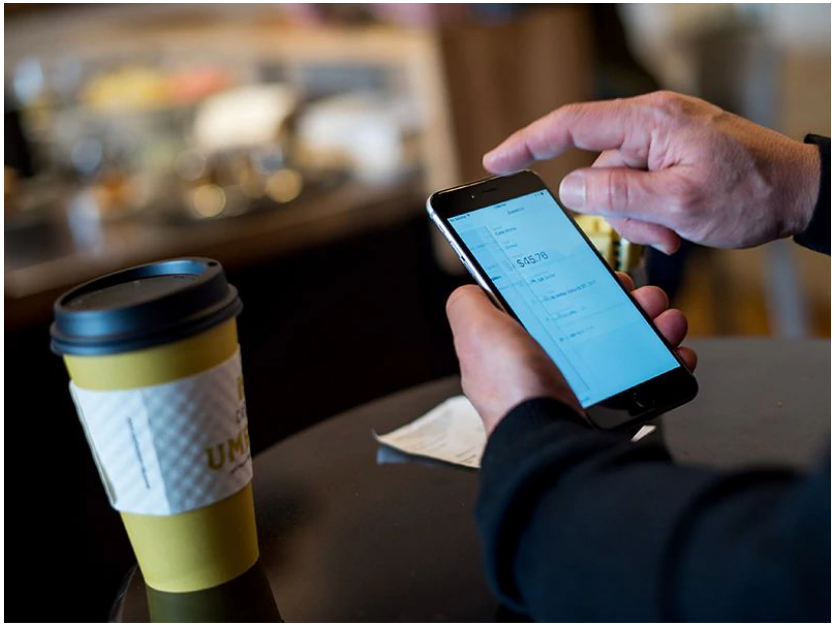
In 1968, a young Intel engineer named Ted Hoff found a way to put the circuits necessary for computer processing onto a tiny piece of silicon. His invention of the microprocessor spurred a series of technological breakthroughs—desktop computers, local and wide area networks, enterprise software, and the Internet—that have transformed the business world. Today, no one would dispute that information technology has become the backbone of commerce. It underpins the operations of individual companies, ties together far-flung supply chains, and, increasingly, links businesses to the customers they serve. Hardly a dollar or a euro changes hands anymore without the aid of computer systems.

As IT's power and presence have expanded, companies have come to view it as a resource ever more critical to their success, a fact clearly reflected in their spending habits. In 1965, according to a study by the U.S. Department of Commerce's Bureau of Economic Analysis, less than 5% of the capital expenditures of



redhat.

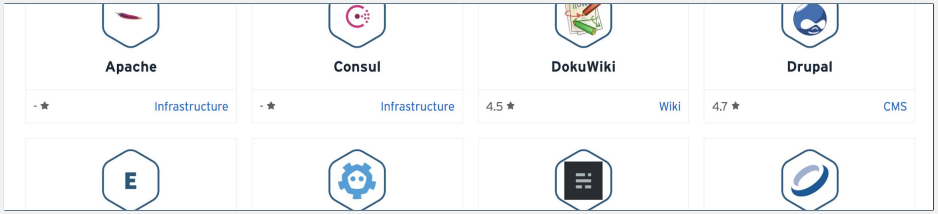

UBER



Computing Applications

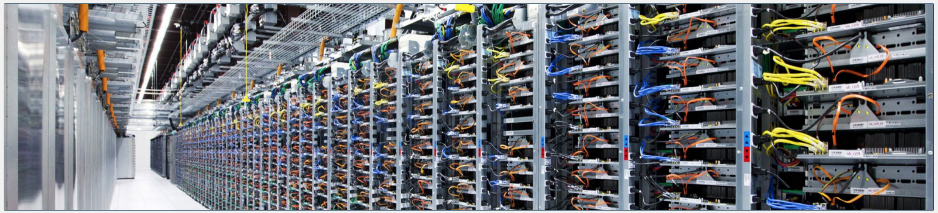
Forever a source of differentiation

Computing Services



No sign yet of commoditization

Computing Infrastructure



On way to “boring necessity to operations”

Electrical Applications

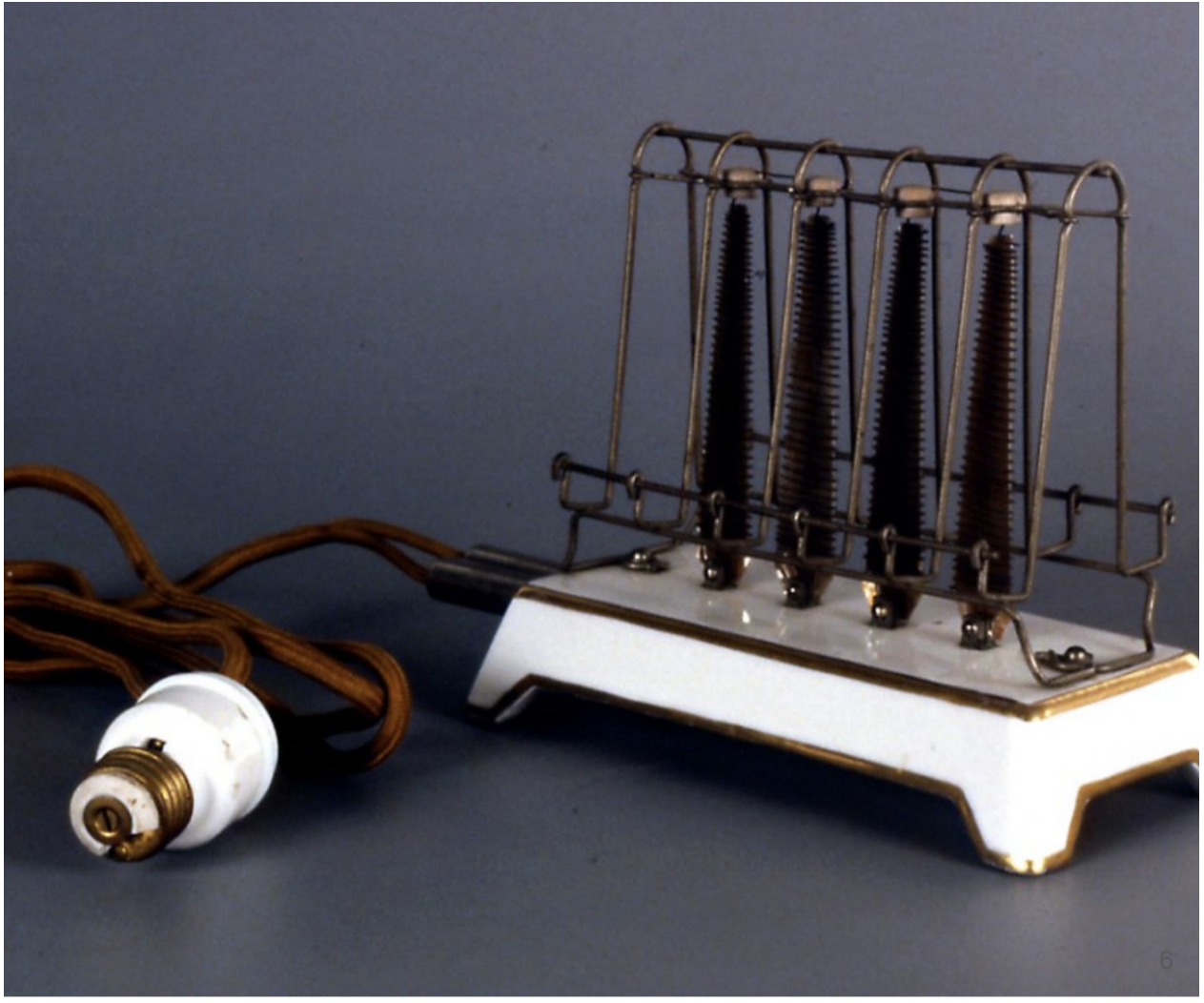
Forever a source of differentiation

Electrical Services

Still innovating

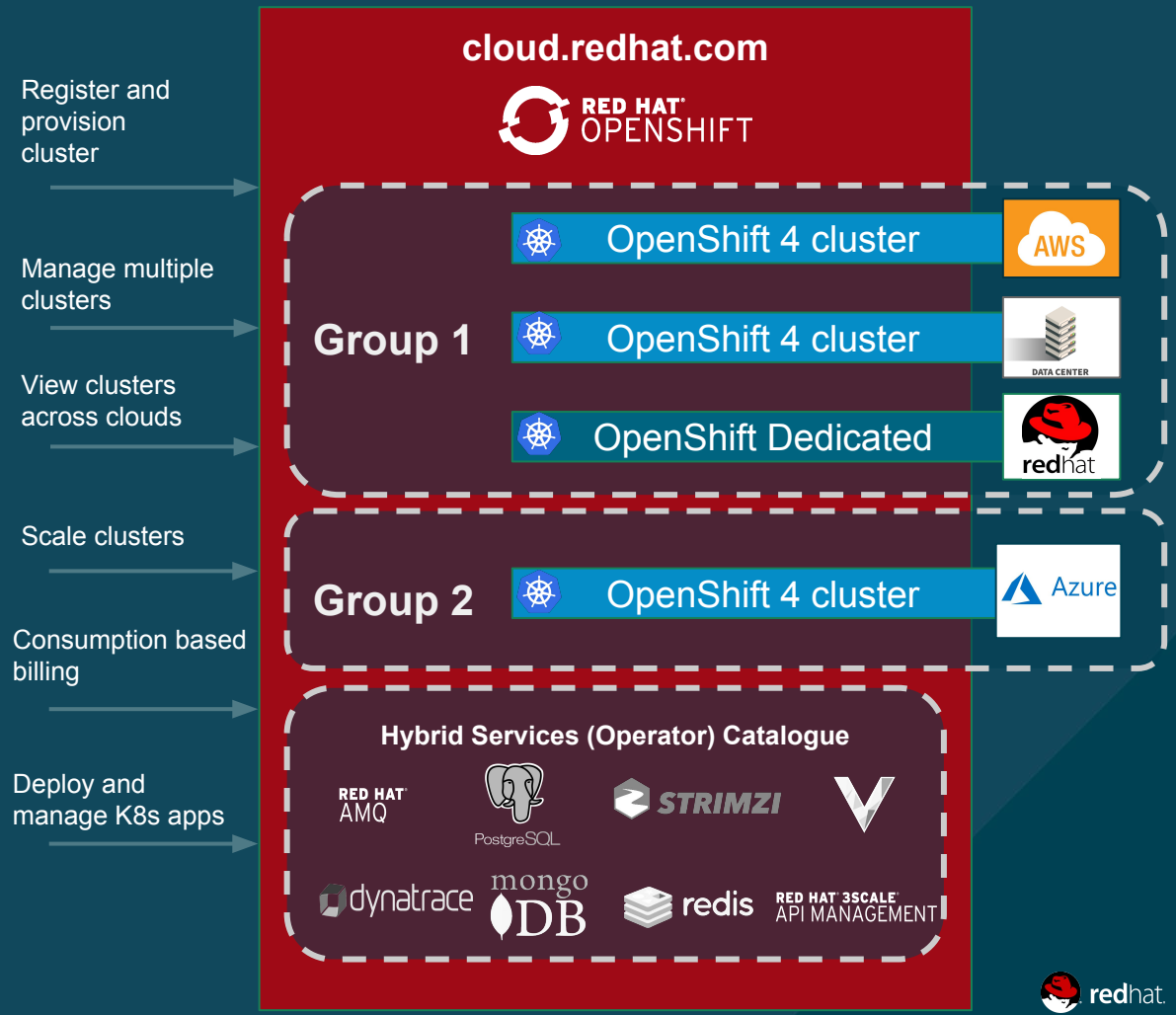
Electrical Infrastructure

Reached “boring necessity to operations”



A true hybrid cloud experience

- Manage multiple **Kubernetes** clusters across on-prem and multiple clouds
- **Automated operations** - Simplicity of the cloud anywhere
- **True hybrid services**
- Optionally choose fully managed (Dedicated)



BETTING ON KUBERNETES SINCE DAY 1

K8S 1.0

K8S 1.0

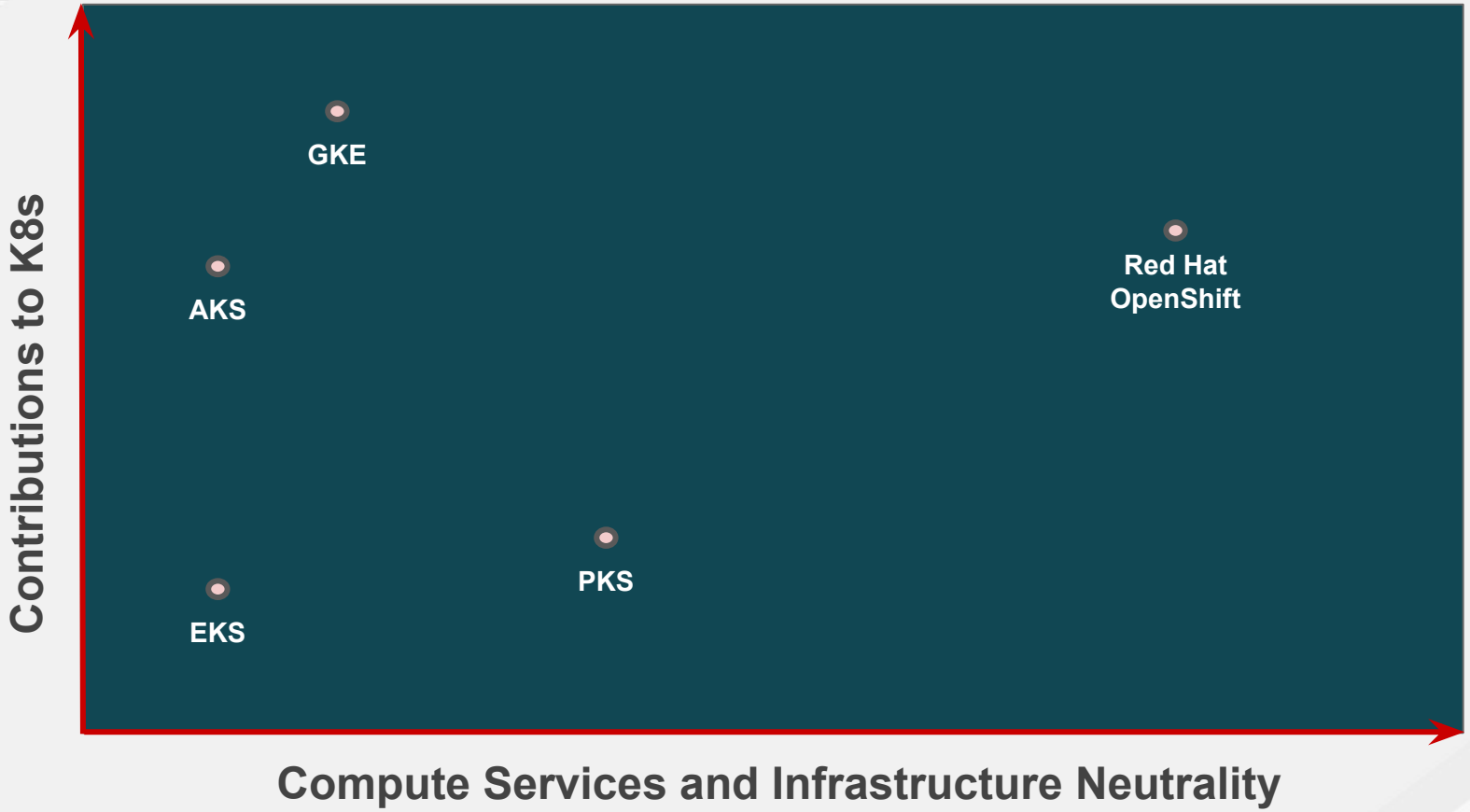
K8S 1.6

K8S 1.8

K8S 1.9

1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 .....

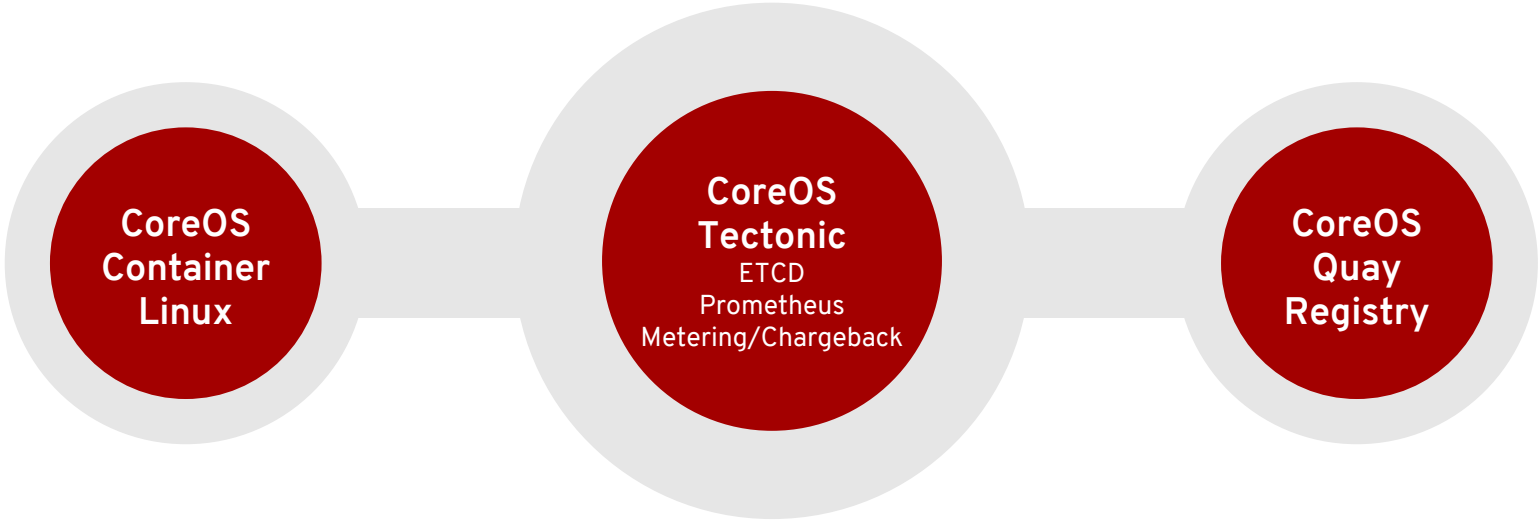
2015 2016 2017 2018


GKE
AKS
Red Hat
OpenShift
PKS
EKS
Contributions to K8s
Compute Services and Infrastructure Neutrality


THE FACTORY OF THE FUTURE WILL HAVE ONLY TWO EMPLOYEES, A MAN AND A DOG.
THE MAN WILL BE THERE TO FEED THE DOG.
THE DOG WILL BE THERE TO KEEP THE MAN FROM TOUCHING THE EQUIPMENT.
- Warren G. Bennis

CoreOS TECHNOLOGY STACK

Three key elements



Fully immutable, container optimized, automatically updated Linux host foundation for OpenShift

Adds automated operations and day 2 management (install, upgrades, monitoring, metering & chargeback)

Best-in-class support for CaaS/KaaS/PaaS use cases

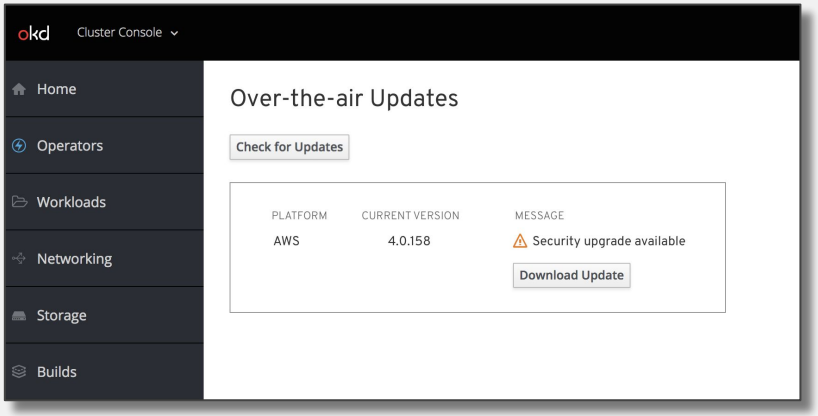
Enterprise container registry; self managed & as-a-service

Premium offering usable standalone or with OpenShift

Geo-replication, vulnerability scanning, build automation

OVER-THE-AIR UPDATES

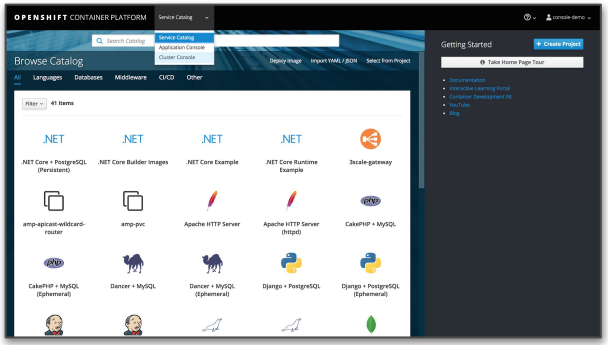
- OpenShift retrieves list of available updates
- Admin selects the target version
- OpenShift full stack is updated over the air
- Auto-update support



DELIVERING IMMUTABLE INFRASTRUCTURE WITH RED HAT COREOS

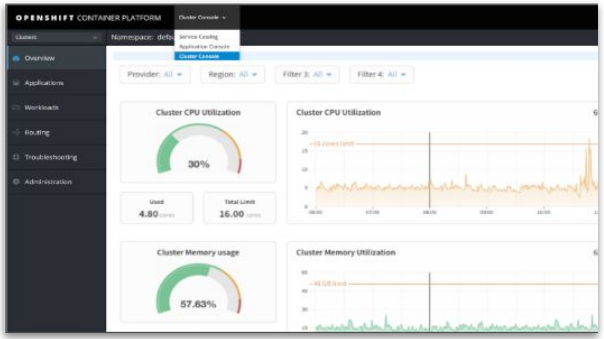
DAY 2 MANAGEMENT: NEW OPENSHIFT ADMIN CONSOLE

DEVELOPER CONSOLE
Existed within OpenShift 3.0



- Developer centric console that exposes the service catalogue
- Multi-tenant aware project management

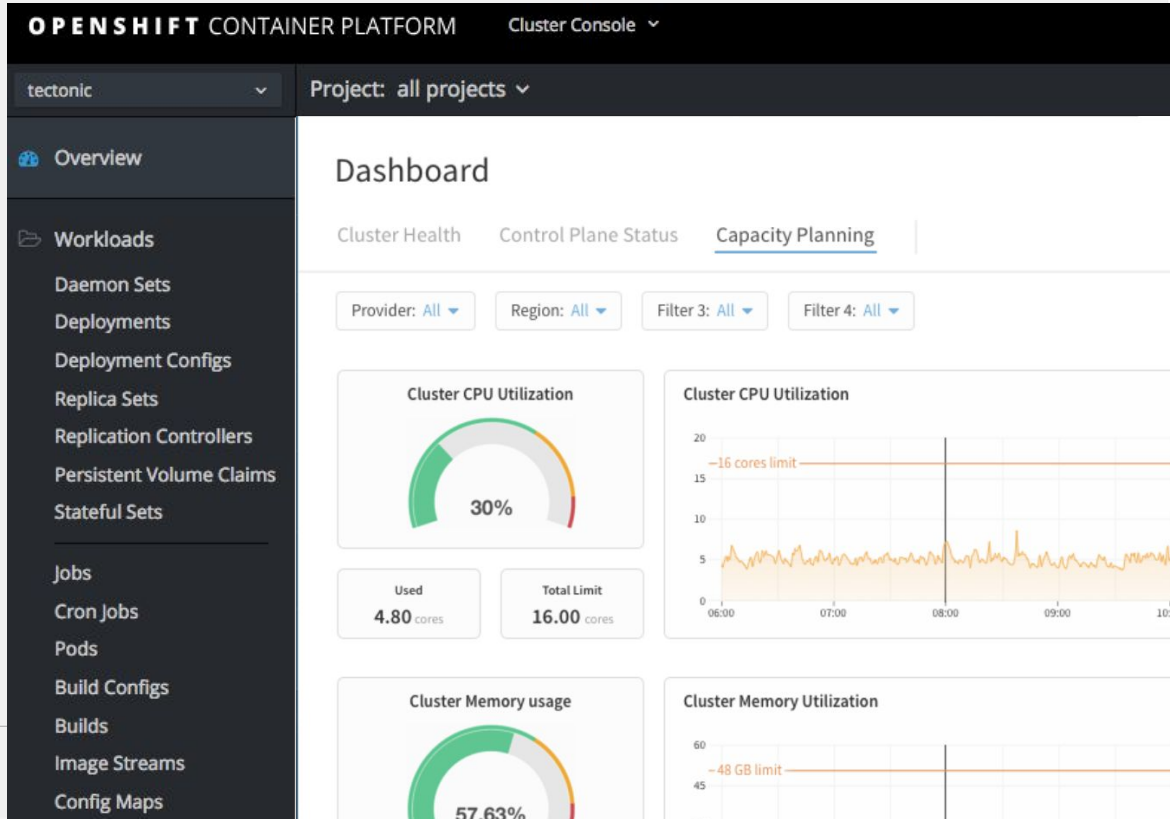
OPERATOR CONSOLE
New with the Tectonic integration



- Admin centric console that leverages the Tectonic console
- The Operator Lifecycle Management and Metering capabilities of Tectonic will be exposed in this new console

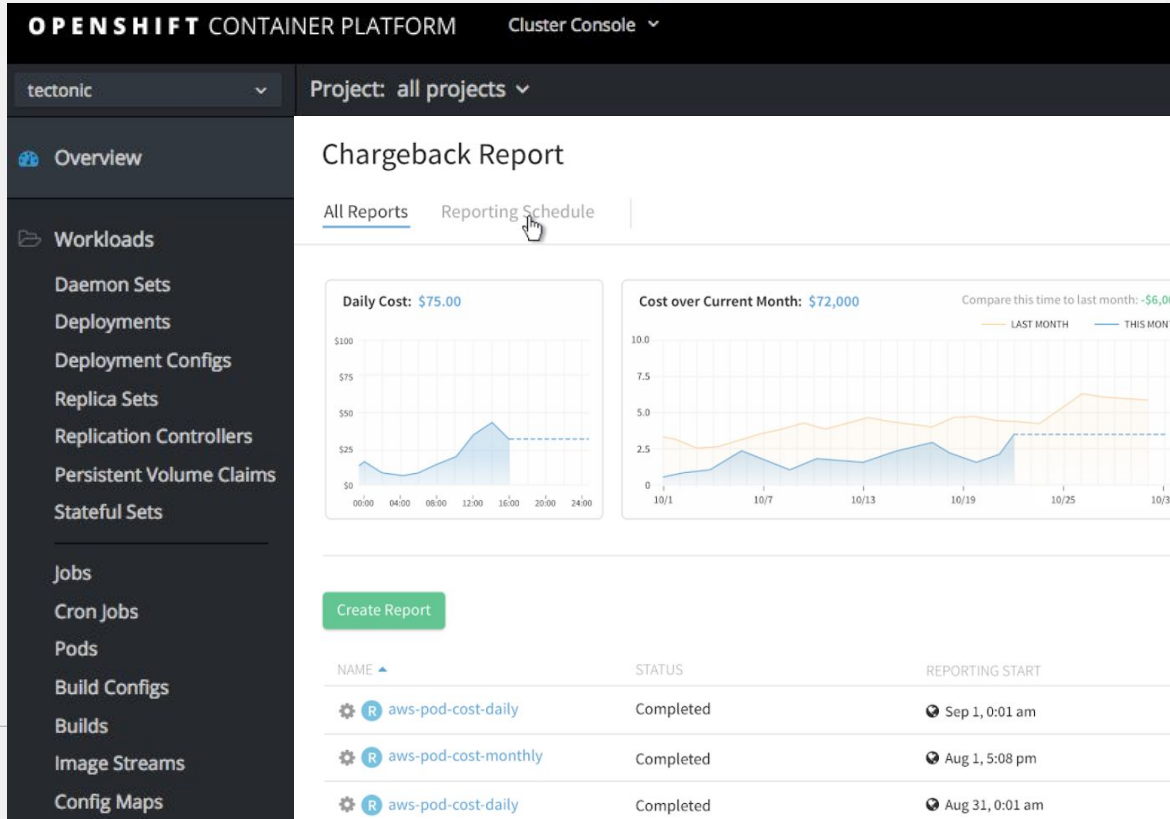
Out of the box infrastructure monitoring

- Cluster management for OpenShift Admins
- Cluster health, control plane status, and capacity planning
- Prometheus alerting with pre-configured alerts

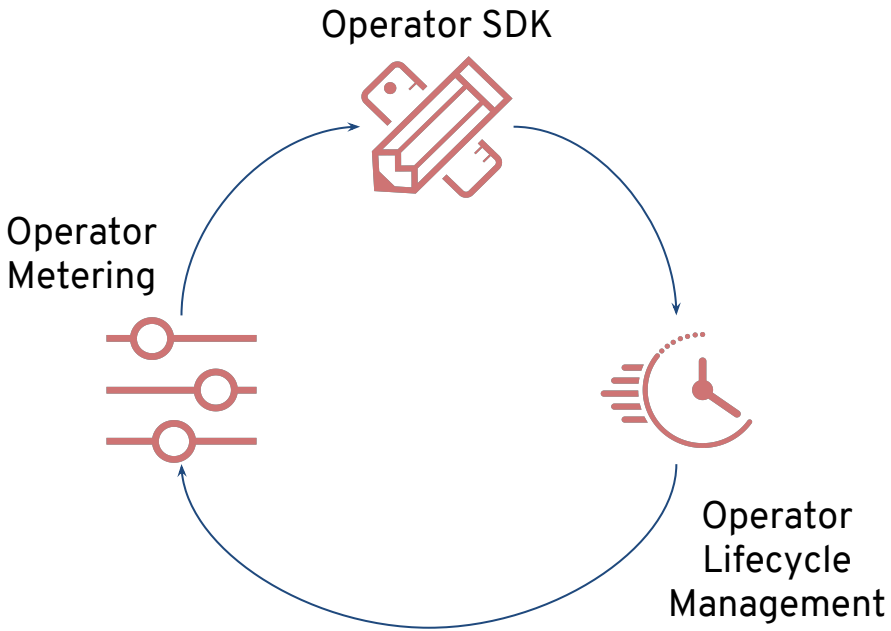


Operator metering - In OpenShift Admin console

- CPU, Memory, networking, and storage tracking + reports
- Actual and reserved usage
- By namespace, pod, label, cloud service, and app type
- Correlated to underlying IaaS cost



INTRODUCING THE OPERATOR FRAMEWORK



OPERATOR FRAMEWORK

Operator Framework is an open source toolkit to manage application instances on Kubernetes in an effective, automated and scalable way.

THE INDUSTRY IS ALIGNING BEHIND THE CONTAINER OPERATOR FRAMEWORK

60+ Certified ISV Operators in Red Hat Early Access Program

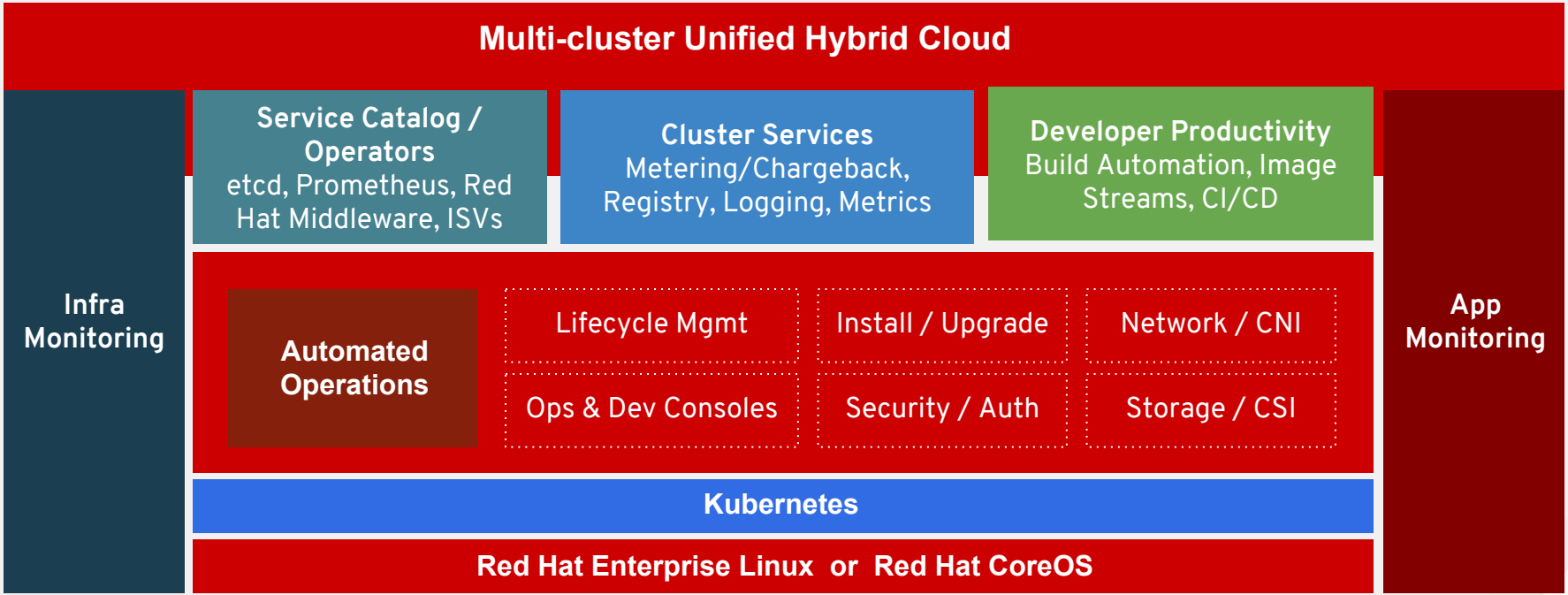
- Containerized

AWS RDS

- Containerized
- Cloud storage ready
- Replicated
- Backup
- Automated updates

- Containerized
- Container storage ready
- Replicated
- Backup
- Automated updates
- Enhanced observability
- Customization
- Local development
- Fully Open Source
- Any Kubernetes
- Certified on OpenShift

OpenShift 4.0 Converged Stack



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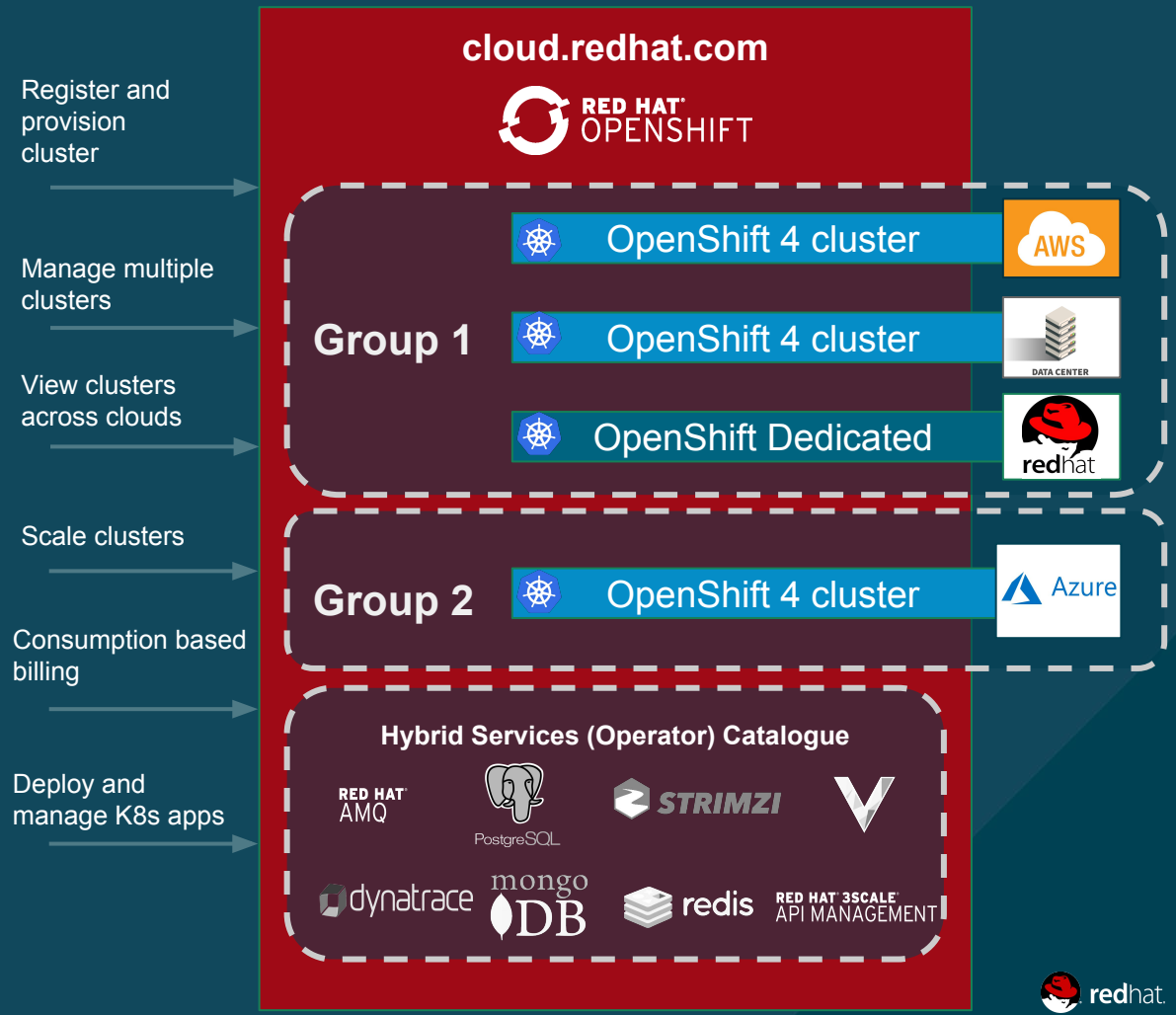
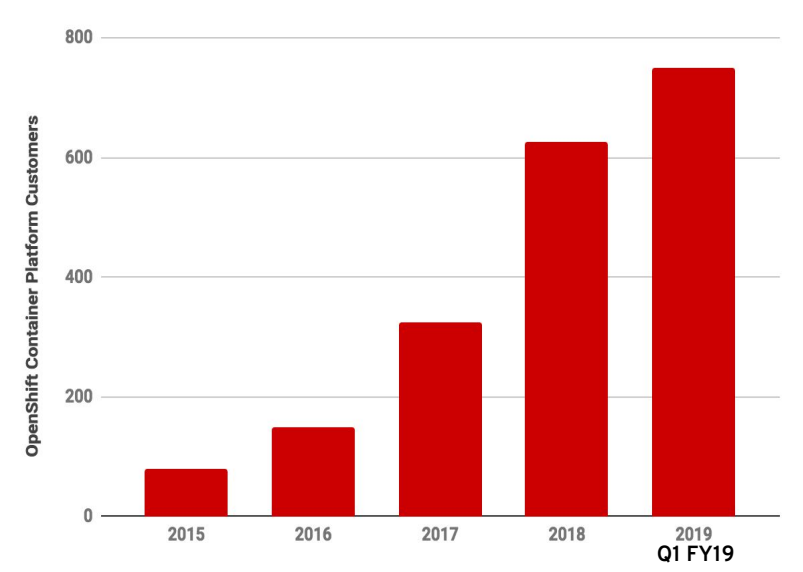
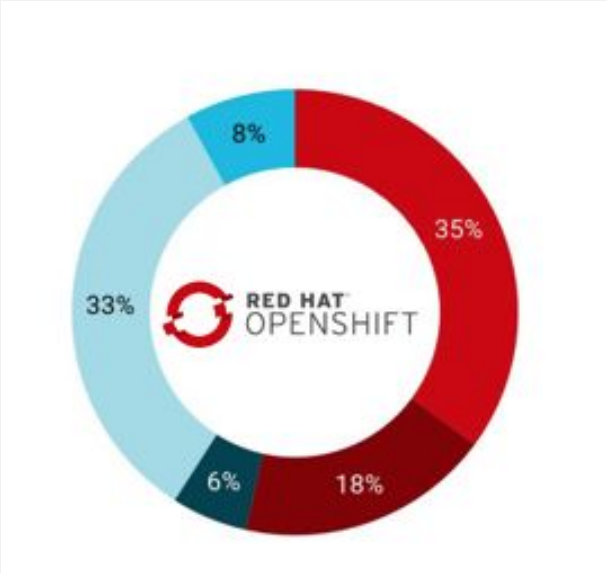


OPENSHIFT IS GAINING MOMENTUM

CUSTOMER GROWTH IS ACCELERATING





Financial services | Government | Telco | Media/technology | Other

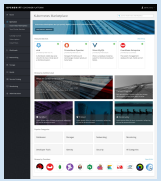

Thank you
Contract

“Many organizations struggle with the burden of managing security across hundreds of VMs. As container-centric architectures become the norm and these organizations are responsible for thousands or tens of thousands of containers, their security practices should emphasize automation and efficiency to keep up.”

Source: NIST Special Publication 800-190 - Application Container Security Guide

Unified Hybrid Cloud

cloud.redhat.com



Cluster 1	AWS
Cluster 2	on-prem
Cluster 3	Dedicated

- manage clusters across all infrastructures
- browse and deploy true hybrid services from operator marketplace to clusters

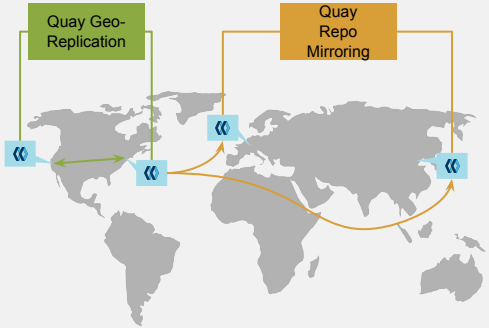
Plan → Code → Build → Scan → Test → Deploy → Run

- single source of truth for depl. artefacts
- centralized metadata repository (signatures, vulnerabilities, labels)
- event triggers / notifications

- provenance data across the lifecycle
- attestations stored in centralized registry

RED HAT® QUAY

- Embedded Operator Marketplace
- Policy Management & Enforcement
- Vulnerability Dashboards
- Notifications / Alerting



- centralized content ingress & federation
- Quay Geo-Replication to serve applications from localized storage across regions
- Quay Repo Mirroring to automatically distribute content to local registries

RED HAT® OPENSHIFT® Container Platform

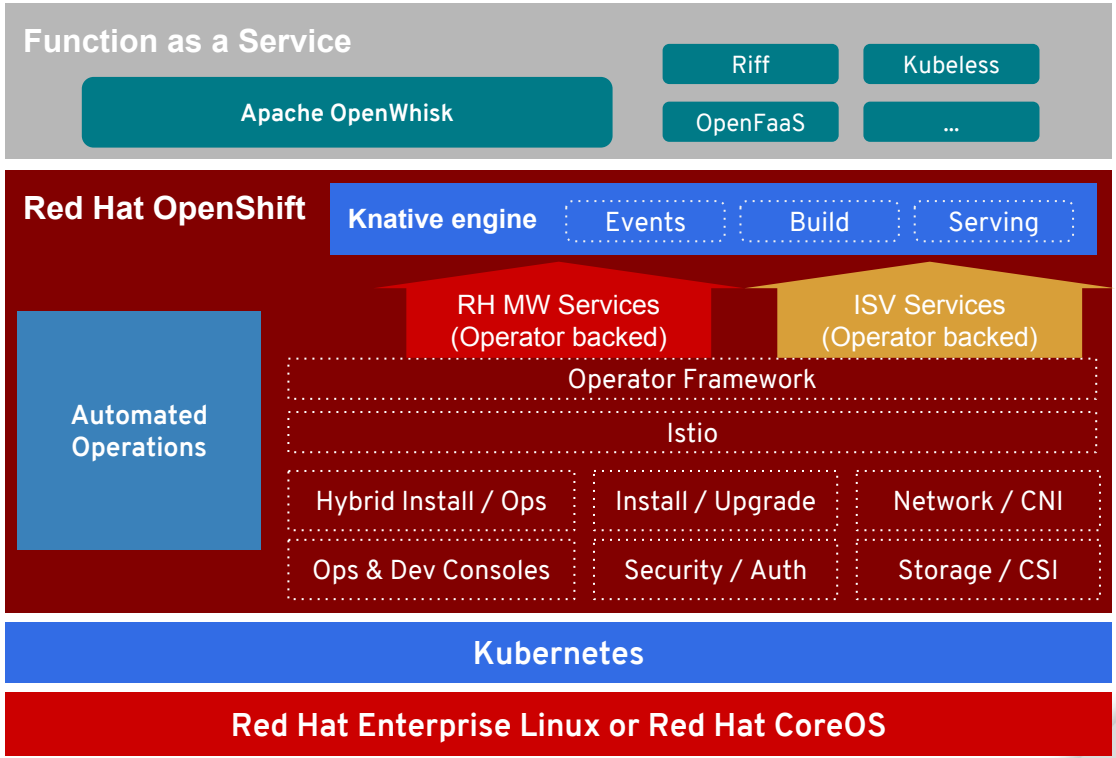
Red Hat OpenShift and Serverless

Developer experience
APIs, CLI, service binding

Building blocks for serverless
Source-centric and container-based

The leading enterprise Kubernetes platform
Automated Operations
Build an run anywhere (Hybrid Cloud)

RED HAT® OPENSHIFT Container Platform



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