Red Hat OpenShift

Innovation Comes From Inside a Container

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Red Hat IGC

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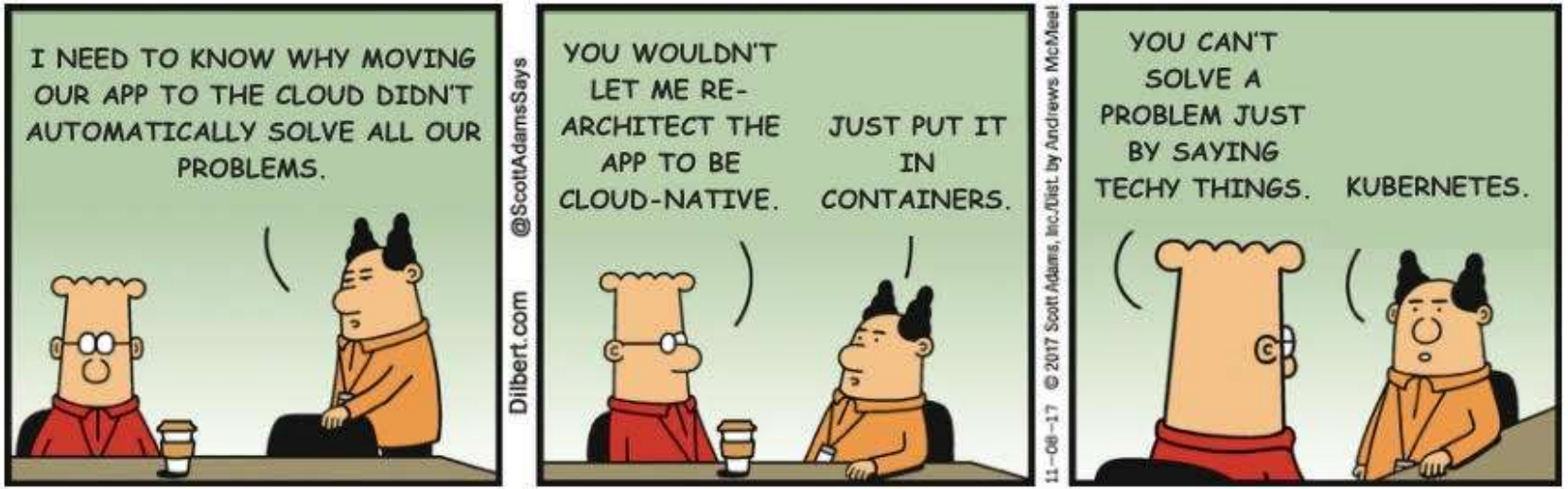
I NEED TO KNOW WHY MOVING OUR APP TO THE CLOUD DIDN'T AUTOMATICALLY SOLVE ALL OUR PROBLEMS.
Dilbert.com @ScottAdamsSays
YOU WOULDN'T LET ME RE-ARCHITECT THE APP TO BE CLOUD-NATIVE.
JUST PUT IT IN CONTAINERS.
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YOU CAN'T SOLVE A PROBLEM JUST BY SAYING TECHY THINGS.
KUBERNETES.

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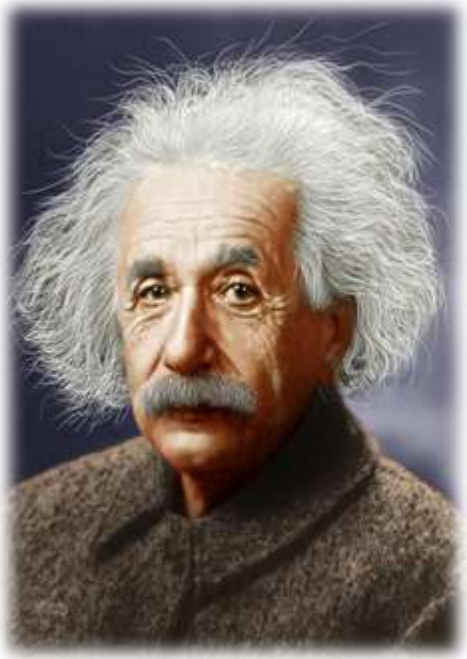
”Strive not to be a **success**,
but rather to be of **value**”



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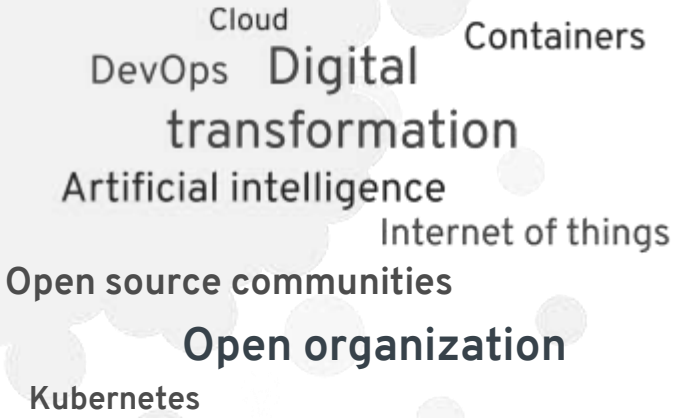
Big ideas drive business innovation



Business innovation is all around us.

Every organization in every geography and in every industry can innovate and create more customer value and differentiation with open source technologies and an open culture.

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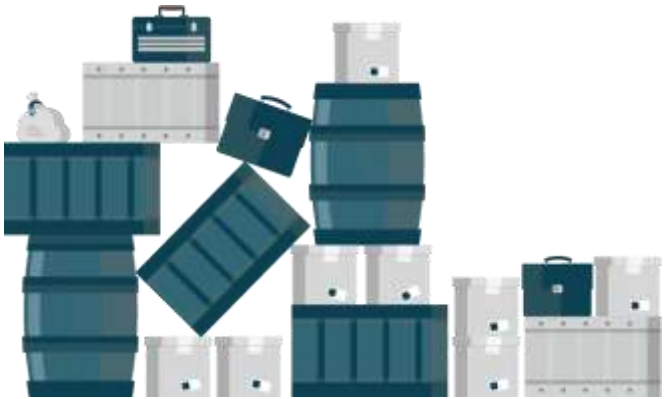
The Problem



Applications require complicated installation and integration every time they are deployed leading to

- Slow service delivery
- Reduced service quality
- Frequent down times

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The Solution

Adopting a container strategy will allow applications to be easily shared and deployed

- Consistent env and tools
- Predictable building blocks
- Faster deployment

write once, deploy anywhere

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WHAT ARE CONTAINERS?

It Depends Who You Ask

- Sandboxed application processes on a shared Linux OS kernel
- Simpler, lighter, and denser than virtual machines
- Portable across different environments

- Package my application and all of its dependencies
- Deploy to any environment in seconds and enable CI/CD
- Easily access and share containerized components

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The benefits of Kubernetes

- Scalability
- Portability
- Consistent deployments
- Separated and automated operations and development

Open source container orchestration platform. Production grade.

Schedulers and scheduling. Service discovery and load balancing. Resource management.

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Kubernetes done right is hard

INSTALL	DEPLOY	HARDEN	OPERATE
• Templating	• Identity & security access	• Platform monitoring & alerts	• OS upgrade & patch
• Validation	• App monitoring & alerts	• Metering & chargeback	• Platform upgrade & patch
• OS setup	• Storage & persistence	• Platform security hardening	• Image upgrade & patch
	• Egress, ingress, & integration	• Image hardening	• App upgrade & patch
	• Host container images	• Security certifications	• Security patches
	• Build/Deploy methodology	• Network policy	• Continuous security scanning
		• Disaster recovery	• Multi-environment rollout
		• Resource segmentation	• Enterprise container registry
			• Cluster & app elasticity
			• Monitor, alert, remediate
			• Log aggregation

75%

of enterprise users identify complexity of implementation and operations as the top blocker to adoption

Source: The New Stack. *The State of the Kubernetes Ecosystem*, August 2017.

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Trusted enterprise Kubernetes

A cloud-like experience, everywhere

Empowering developers to innovate

Container application platform based on Docker and Kubernetes for building, distributing and running containers at scale

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Trusted enterprise Kubernetes

- Trusted host, content, platform
- Full-stack automated installation
- Seamless updates

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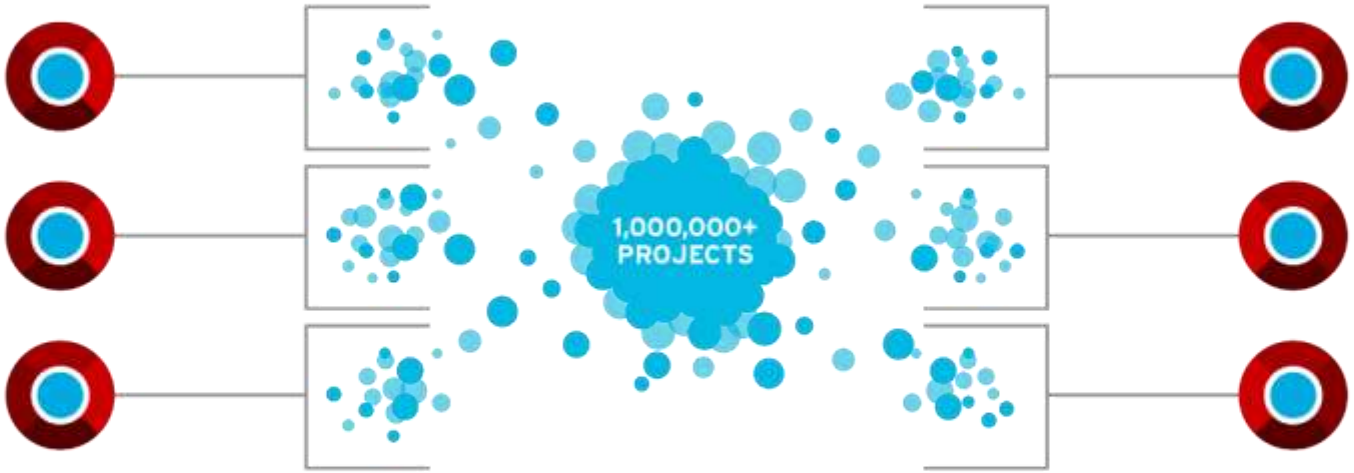
Product Development Model



Participate

We participate in and create community-powered upstream projects.

Integrate

We integrate upstream projects, fostering open community platforms.

Stabilize

We commercialize these platforms together with a rich ecosystem of services and certifications.

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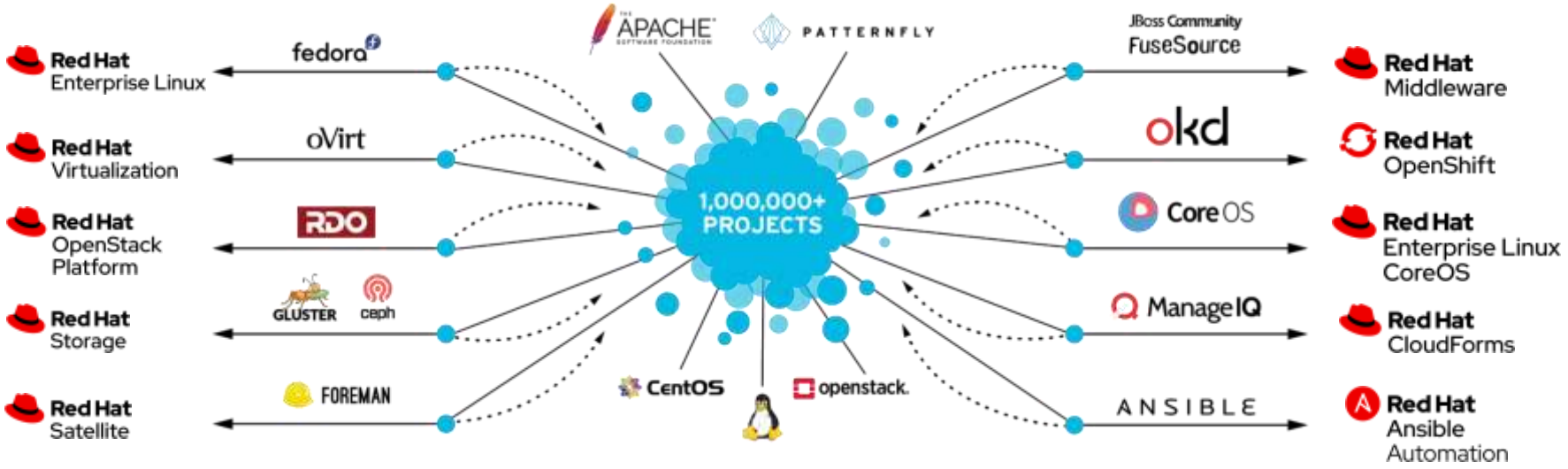
From Communities to Enterprise



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Creating value depends on your ability to deliver applications faster

Cloud-native applications

AI & machine learning

Analytics

Internet of Things

Innovation culture

Containers, Kubernetes, and hybrid cloud are key ingredients.
OpenShift is the best platform to deliver container-based applications.

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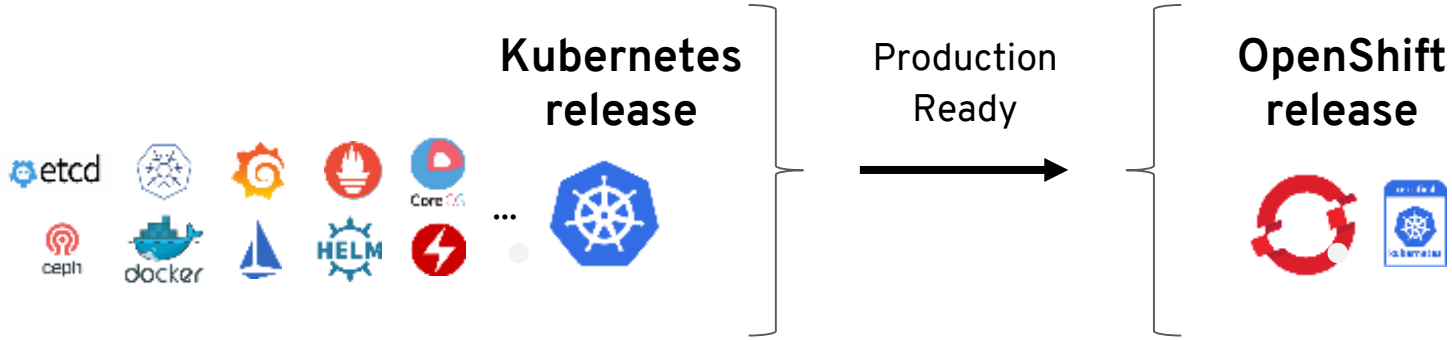
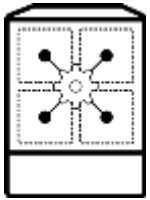
OpenShift is trusted enterprise Kubernetes

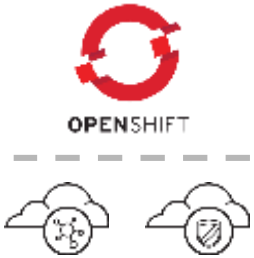


- Hundreds of defect and performance fixes
- 200+ validated integrations
- Certified container ecosystem
- 9-year enterprise life-cycle management
- Red Hat is a leading Kubernetes contributor since day 1

Why customers choose Red Hat OpenShift



Trusted enterprise Kubernetes



Cloud-like experience everywhere

Empowering developers to innovate

Open source innovation

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Who is doing this?

read more at openshift.com/customers

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A cloud-like experience, everywhere

Operator Framework

Operator Hub &
ISV ecosystem

Multicluster
management

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A consistent container application platform

FROM YOUR DATACENTER TO THE CLOUD

Automated operations

Multi-tenant

Secure by default

Network traffic control

Over-the-air updates

Monitoring & chargeback

Pluggable architecture

RED HAT® OPENSHIFT

Bare metal, VMware vSphere, Red Hat Virtualization, Red Hat OpenStack Platform, Amazon Web Services, Microsoft Azure, Google

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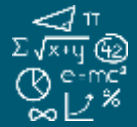
Kubernetes-native day 2 management

OPERATOR FRAMEWORK

Flexible app architectures



No reinvention of core concepts

Uniform deploy and debug

Truly hybrid

Operators codify operational knowledge and workflows to automate life-cycle management of containerized applications with Kubernetes

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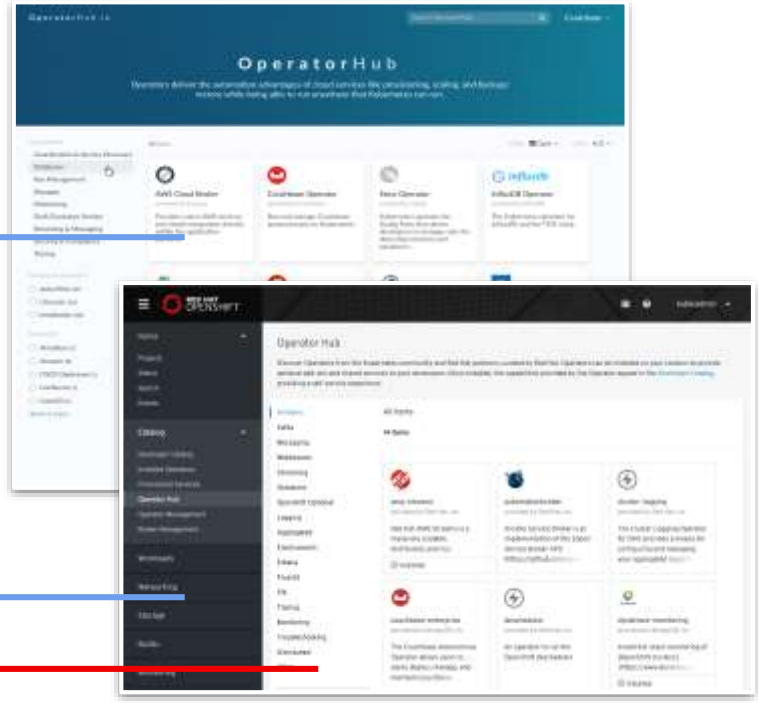
OperatorHub and certified Operators

- OperatorHub.io launched by Red Hat, AWS, Microsoft and Google
- OpenShift Operator Certification
- OperatorHub integrated into OpenShift 4



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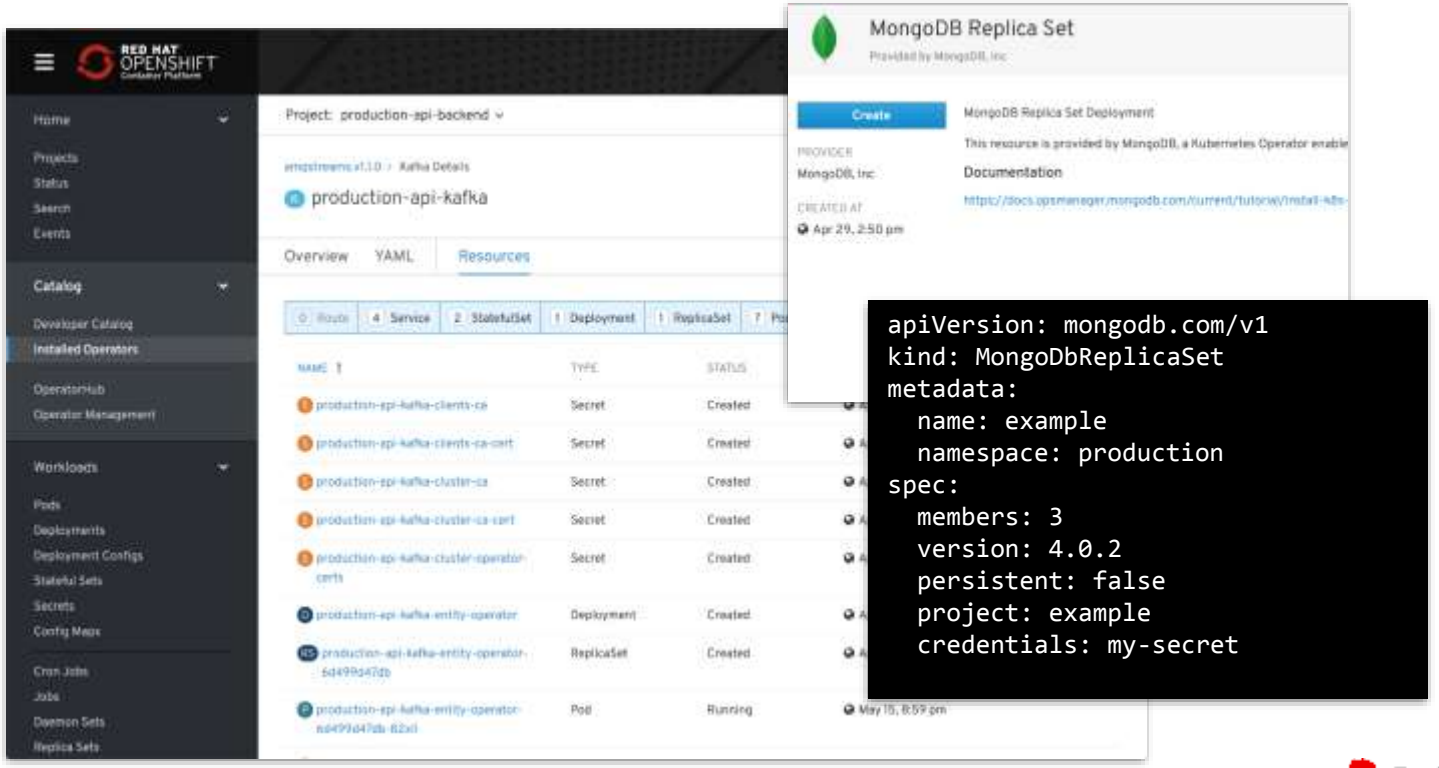
Self-service for developers



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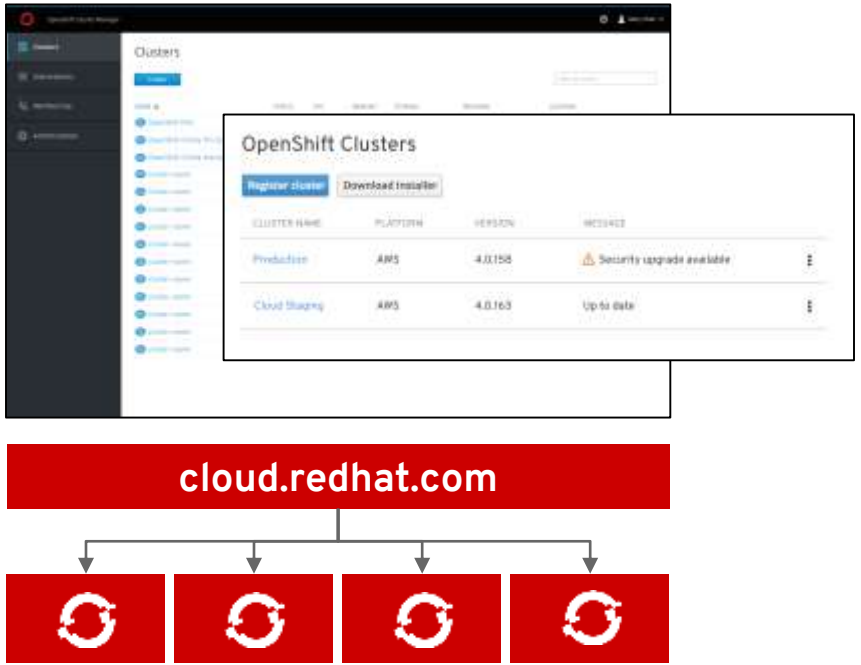
Delivering Kubernetes everywhere

- Manage multiple OpenShift clusters, across multiple cloud and on-premises environments
- Install and update OpenShift across all your cloud environments
- Centrally manage policy and deployments



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Empowering developers to innovate

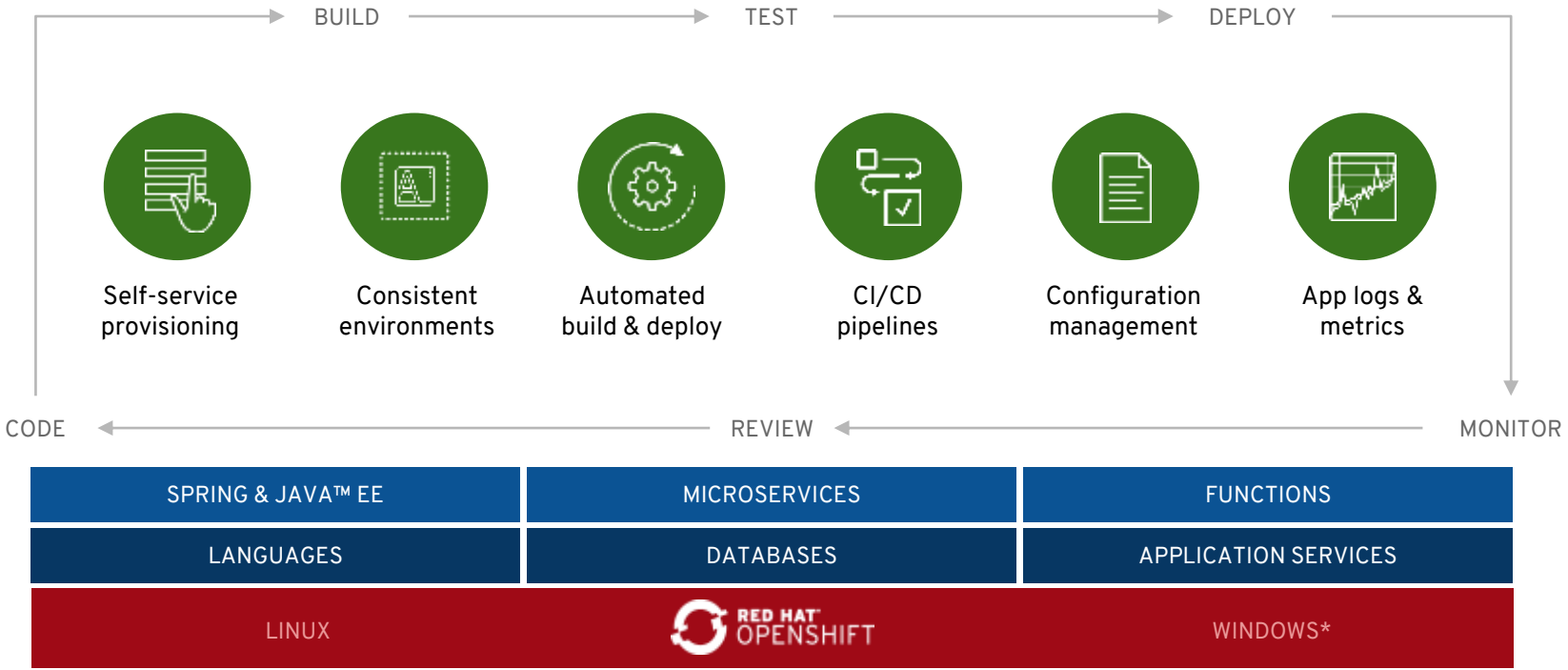
Service mesh

Serverless

Red Hat CodeReady Workspaces & developer tooling

Red Hat

OpenShift enables developer productivity



* coming soon

Red Hat

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 soon)

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

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CONTAINER CHALLENGES

Container security

Image scanning, patching, and compliance

Day 2 management

Installations, upgrades, and maintenance
Integration of existing enterprise technology

Application delivery

Monitoring, metering, and management
Integration of existing developer tools

Trusted enterprise Kubernetes

Continuous security, world-class support and services, and deep expertise to confidently run any application

A cloud-like experience, everywhere

Full-stack automated operations on a consistent foundation across on-premises or hybrid cloud infrastructure

Empowerment for developers to innovate

Ability to get applications to production sooner with a wide range of technologies and streamlined workflows

Red Hat

Thank You

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