

Red Hat OpenShift

The platform for big ideas

Presenter's Name

Title

A top-down photograph of a light-colored wooden desk. On the desk are several items: a white laptop on the left, an open spiral notebook with a pen, a small potted cactus, a power strip with multiple outlets, a black smartphone, a white smartphone, a black wallet, a white smartphone, a white laptop on the right, a black coffee cup with a white lid, a white coffee cup with a white lid, and a clipboard with a document titled "Contract". Two people's forearms and hands are visible in the center; one person is wearing a white long-sleeved shirt and a white watch, while the other is wearing a striped shirt and a green and black watch. They are holding hands.

... so you want to do
containers and Kubernetes?

YOUR DIFFERENTIATION DEPENDS ON YOUR ABILITY TO DELIVER APPLICATIONS FASTER

Cloud-native
Applications



AI & Machine
Learning



Blockchain



Internet of Things



Innovation
Culture



CONTAINERS, KUBERNETES, MICROSERVICES & DEVOPS ARE KEY INGREDIENTS

KUBERNETES DONE RIGHT IS HARD

INSTALL

- Templating
- Validation
- OS Setup

DEPLOY

- Identity & Security Access
- App Monitoring & Alerts
- Storage & Persistence
- Egress, Ingress & Integration
- Host Container Images
- Build/Deploy Methodology

HARDEN

- Platform Monitoring & Alerts
- Metering & Chargeback
- Platform Security Hardening
- Image Hardening
- Security Certifications
- Network Policy
- Disaster Recovery
- Resource Segmentation

OPERATE

- OS Upgrade & Patch
- Platform Upgrade & Patch
- Image Upgrade & Patch
- App Upgrade & Patch
- Security Patches
- Continuous Security Scanning
- Multi-environment Rollout
- Enterprise Container Registry
- Cluster & App Elasticity
- Monitor, Alert, Remediate
- Log Aggregation

 75%

A red circular icon containing a white warning triangle symbol.

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

THE KUBERNETES NEWS YOU DON'T WANT



- K8s dashboard exposed
- AWS environment with telemetry data compromised
- Tesla's infrastructure was used for crypto mining



- No security on K8s dashboard
- IT infrastructure credentials exposed
- Enabled access to a large part of Weight Watchers' network



- K8S and etcd bug introduced to servers during update
- New features and changes deployed cause failures
- Restart backend components leading to full platform outage



Unnecessary
Costs



Increased
Risk



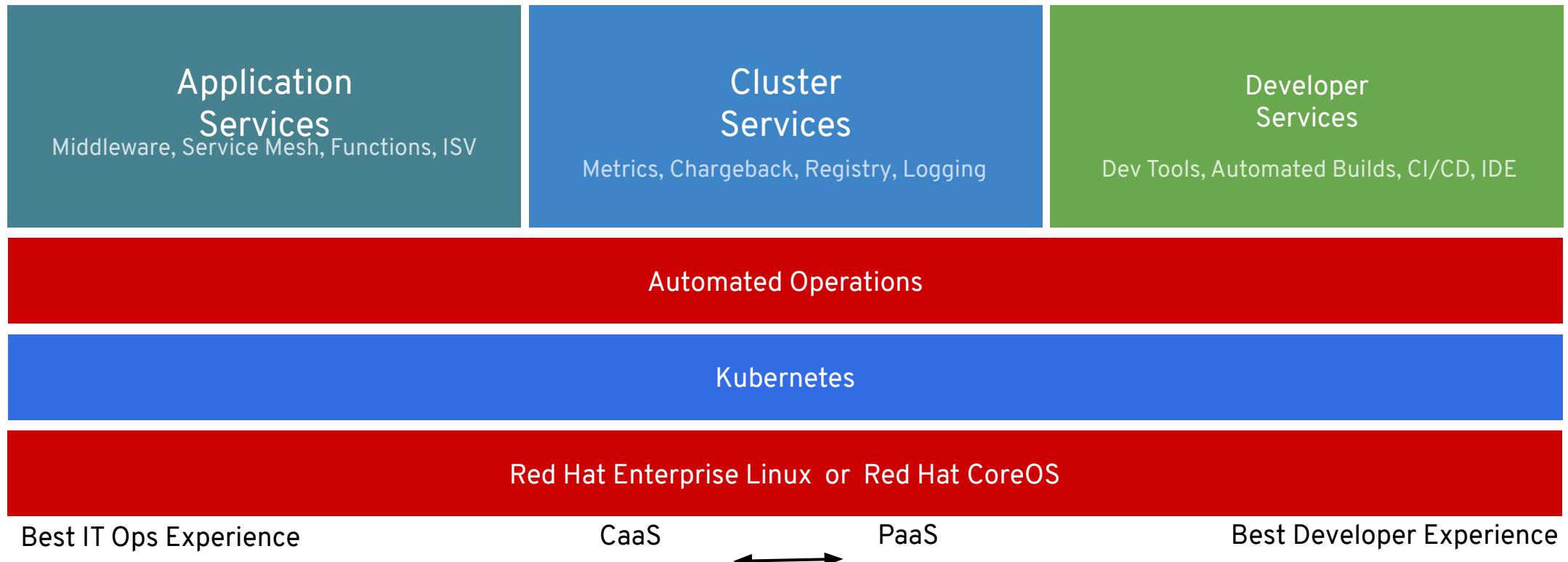
Unrealized
Value

OPENSHIFT IS KUBERNETES FOR THE ENTERPRISE



Security fixes
100s of defect and performance fixes
200+ validated integrations
Middleware integrations
(container images, storage, networking, cloud services, etc)
9 year enterprise lifecycle management
Certified Kubernetes

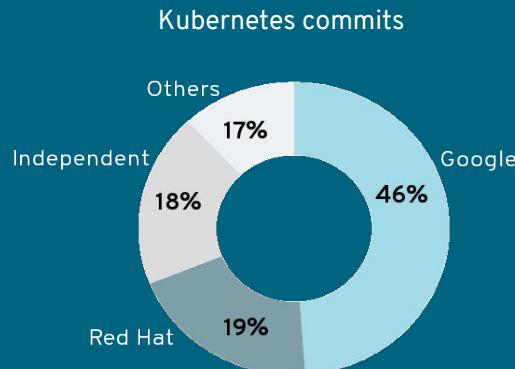
REFERENCE ARCHITECTURE FOR ENTERPRISE KUBERNETES



WHY IS RED HAT THE BEST CHOICE?

THE FOUR Cs

CODE



Red Hat is a leading Kubernetes developer & contributor with Google¹.

We make container development easy, reliable, & more secure.

CUSTOMERS



Most reference customers running in production.

We have years of experience running OpenShift Online & OpenShift Dedicated services.

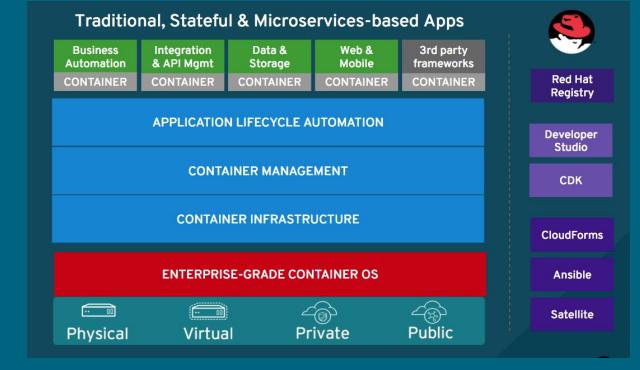
CLOUD



Strong partnerships with cloud providers, ISVs, CCSPs.

We have an extensive container catalog of certified partner images.

COMPREHENSIVE



Our comprehensive portfolio of container products and services includes developer tools, security, application services, storage, & management.

Source: [1] Stackalytics, [Contribution by Companies](#). (Release: All, Project type: Kubernetes, Module: kubernetes, Metric: Commits)
Retrieved: March 2, 2018.



The Kubernetes platform for developers



Developers want to be **productive** and have choice

Choice of architectures

Choice of programming
languages

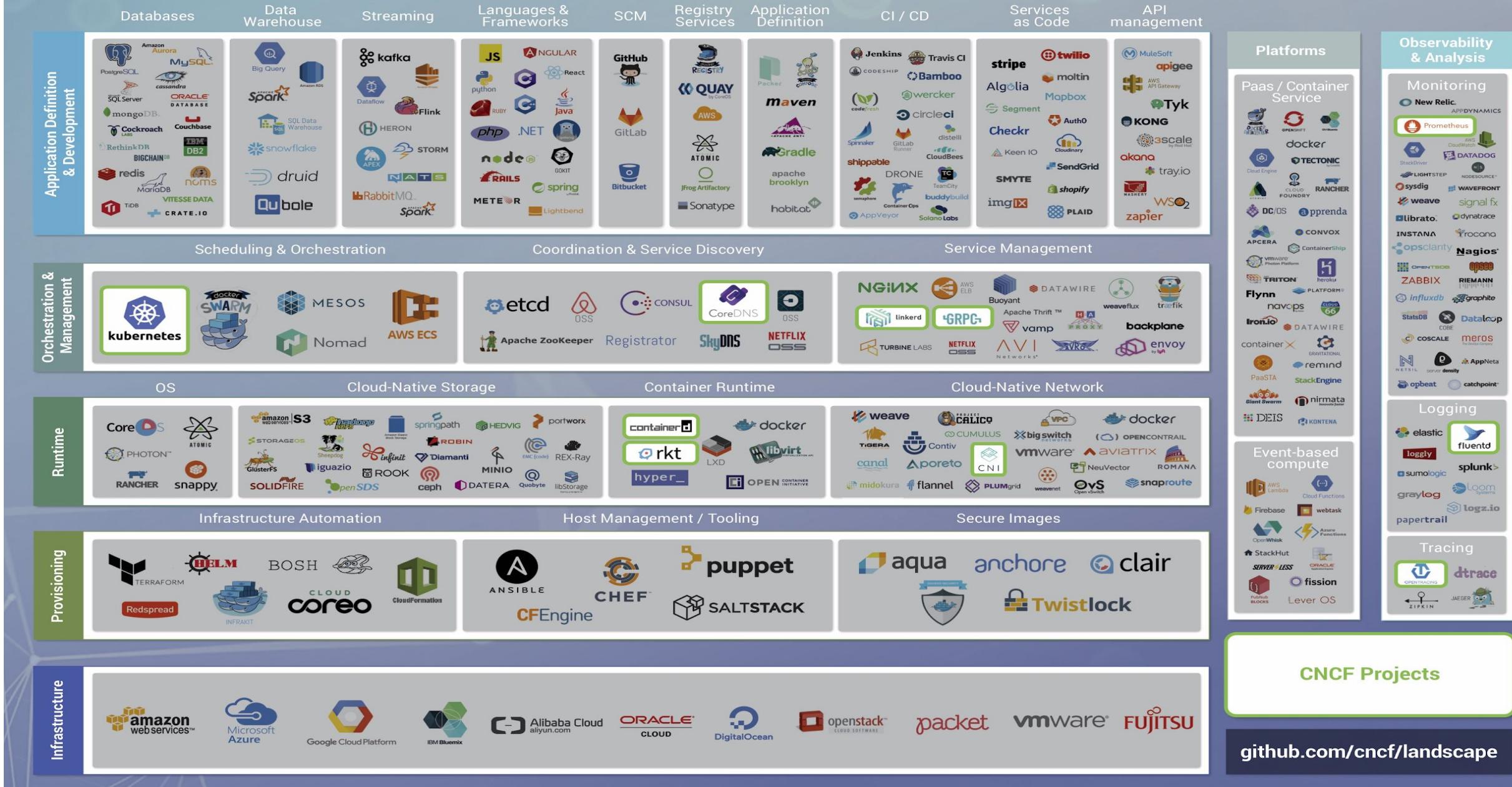
Choice of databases

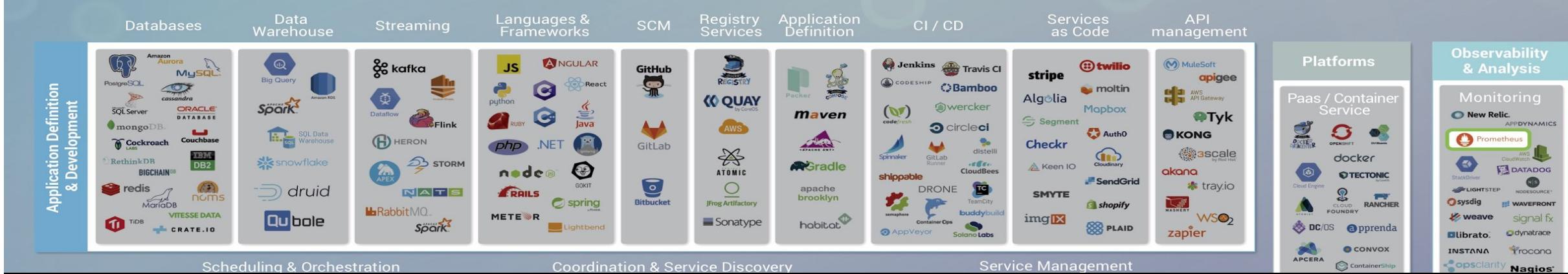
Choice of application services

Choice of development tools

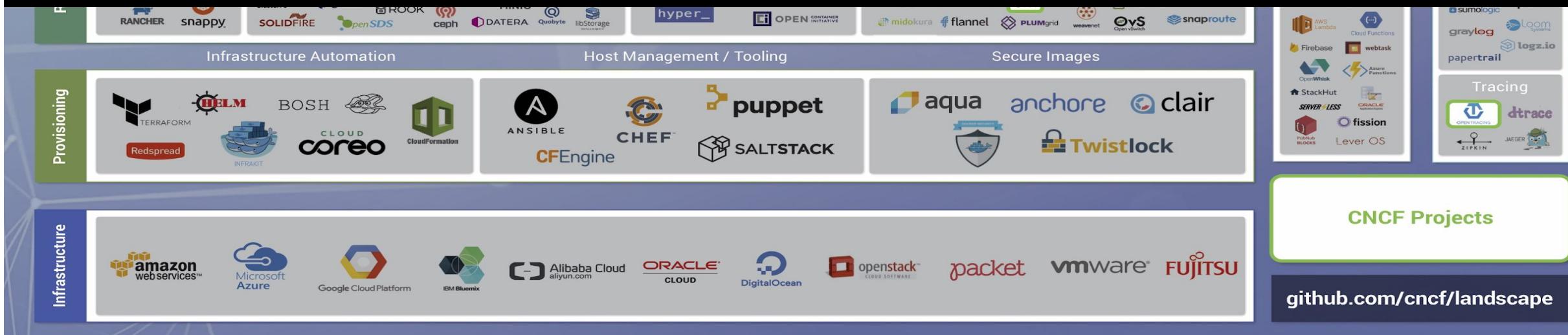
Choice of build and deploy
workflows

They don't want to have to worry
about the infrastructure.





THE CLOUD-NATIVE APP DEV CHALLENGE



THE POWER OF THE OPENSHIFT ECOSYSTEM

RED HAT PORTFOLIO

Optimized for Containers

**RED HAT®
OPENSHIFT**
Application Runtimes

**RED HAT®
JBoss®
WEB SERVER**

**RED HAT®
JBoss®
ENTERPRISE
APPLICATION PLATFORM**

**RED HAT®
DATA GRID**

**RED HAT®
AMQ**

**RED HAT®
FUSE**

**RED HAT®
MOBILE**

**RED HAT®
ANSIBLE®
Engine**

**RED HAT®
QUAY
CONTAINER
REGISTRY**

**RED HAT®
DECISION
MANAGER**

**RED HAT®
PROCESS AUTOMATION
MANAGER**

**RED HAT® 3SCALE®
API MANAGEMENT**

**RED HAT®
OPENSHIFT
Container Storage**

THIRD-PARTY ISV

Red Hat Container Catalog (100s certified)



CLOUD SERVICES

Open Service Broker



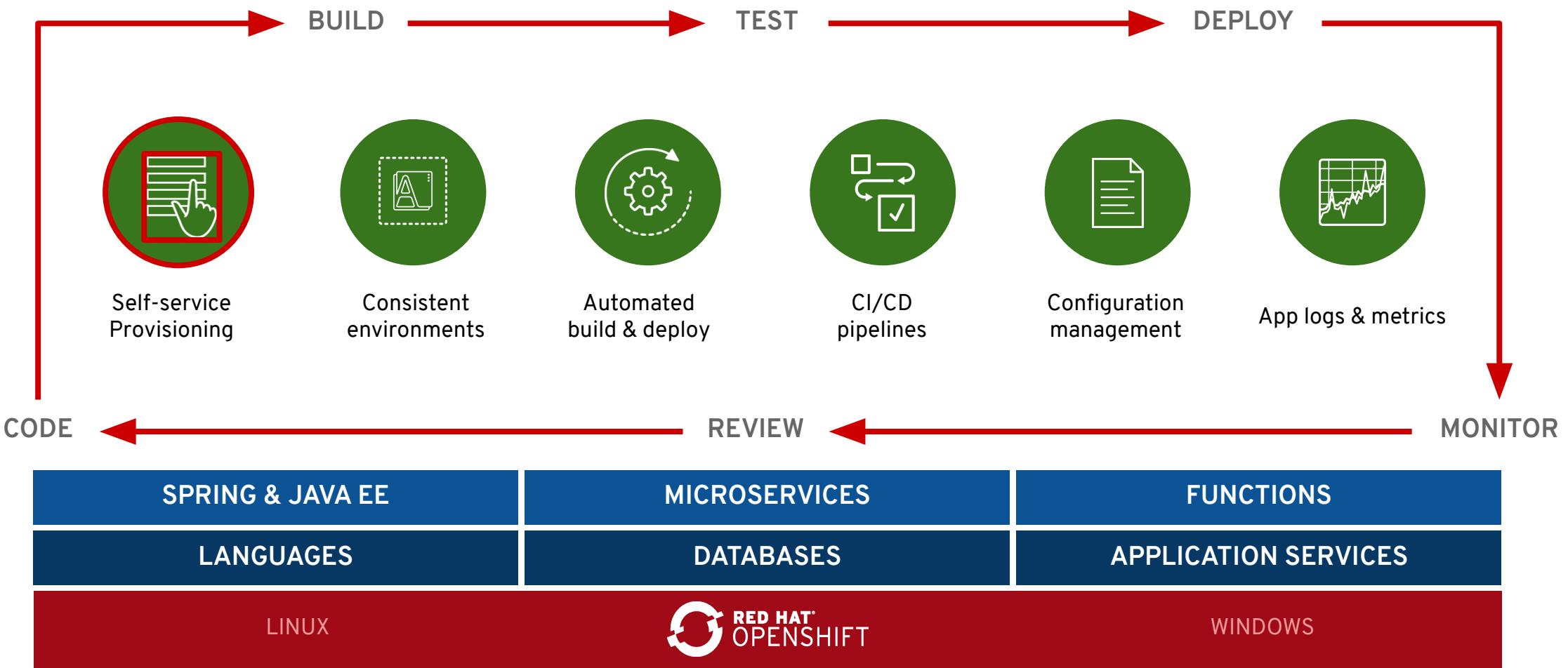
Microsoft Azure



RED HAT ENTERPRISE LINUX ECOSYSTEM

Hardware, Virtualization, Cloud and Service Provider Certifications

HOW OPENSHIFT ENABLES DEVELOPER PRODUCTIVITY





“Team went from dev to prod in 2 months on OpenShift, and nobody in IT Ops knew. The friction was removed.”

Simon Cashmore, Head of Middleware PM
Barclays

An aerial photograph of a large shipping port. The scene is filled with thousands of shipping containers stacked in tight, organized rows. The containers come in various colors, including red, blue, green, and white. Large yellow gantry cranes are positioned between the stacks, some with their arms extended over the containers. The port is situated next to a body of water, with several large cargo ships visible in the distance. The overall impression is one of a highly efficient and busy industrial hub.

The Kubernetes platform for IT Operations



IT Operations needs **secure, efficient and controlled processes**

Automated provisioning
Automated installations
Automated security scanning
Automated upgrades
Automated backups

And it needs to integrate with
what you already have.

AUTOMATED CONTAINER OPERATIONS

Fully automated day-1 and day-2 operations

INSTALL

DEPLOY

HARDEN

OPERATE

AUTOMATED OPERATIONS

Infra provisioning

Full-stack deployment

Secure defaults

Multi-cluster aware

Embedded OS

On-premises and cloud

Network isolation

Monitoring and alerts

Unified experience

Audit and logs

Full-stack patch & upgrade

Signing and policies

Zero downtime upgrades

Vulnerability scanning

A CONSISTENT CONTAINER APPLICATION PLATFORM

FROM YOUR DATACENTER TO THE CLOUD



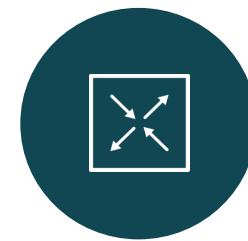
Automated
operations



Multi-tenant



Secure by
default



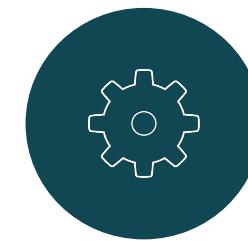
Network
traffic control



Over-the-air
updates



Monitoring
& chargeback

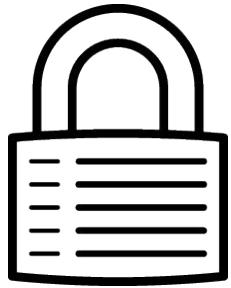


Pluggable
architecture



BARE METAL, VSphere, RHV, OPENSTACK, AWS, AZURE, GOOGLE

COMPREHENSIVE CONTAINER SECURITY



CONTROL
Application Security



DEFEND
Infrastructure



EXTEND

Container Content	CI/CD Pipeline
Container Registry	Deployment Policies
Container Platform	Container Host Multi-tenancy
Network Isolation	Storage
Audit & Logging	API Management
Security Ecosystem	

KUBERNETES OPERATOR FRAMEWORK

AN INNOVATIVE, MORE EFFICIENT WAY TO MANAGE CONTAINERIZED
APPLICATIONS AT SCALE

AUTOMATED LIFECYCLE MANAGEMENT



Operators codify operational knowledge and workflows to
automate lifecycle management of containerized applications
with Kubernetes

THE INDUSTRY IS ALIGNING BEHIND THE KUBERNETES OPERATOR FRAMEWORK



60+ Certified ISV Operators in Red Hat Early Access Program

Welcome to OperatorHub.io

OperatorHub.io is a new home for the Kubernetes community to share Operators. Find an existing Operator or list your own today.

CATEGORIES 59 ITEMS VIEW ■■■ SORT A-Z ▾

	Akka Cluster Operator provided by Lightbend, Inc. Run Akka Cluster applications on OpenShift.		Apache Spark Operator provided by radanalytics.io An operator for managing the Apache Spark clusters and intelligent applications that...		Aqua Security Operator provided by Aqua Security, Inc. The Aqua Security Operator runs within Kubernetes cluster and provides a means to...		AtlasMap Operator provided by AtlasMap AtlasMap is a data mapping solution with an interactive web based user interface, t...
	AWS Service Operator provided by Amazon Web Services, Inc. The AWS Service Operator allows you to manage AWS...		Camel K Operator provided by The Apache Software Foundation Apache Camel K is a lightweight integration...		CockroachDB provided by Helm Community CockroachDB Operator based on the CockroachDB helm chart		Community Jaeger Operator provided by CNCF Provides tracing, monitoring and troubleshooting microservices-based
	Banzai Cloud Operator provided by Banzai Cloud, Inc. The Banzai Cloud Operator allows you to manage Banzai Cloud...		CNCF Operator provided by CNCF The CNCF Operator allows you to manage CNCF...		Red Hat Operator provided by Red Hat The Red Hat Operator allows you to manage Red Hat...		

CATEGORIES 59 ITEMS VIEW ■■■ SORT A-Z ▾

CATEGORIES

- AI/Machine Learning
- Application Runtime
- Big Data
- Cloud Provider
- Database
- Developer Tools
- Integration & Delivery
- Logging & Tracing
- Monitoring
- Networking
- OpenShift Optional
- Security
- Storage
- Streaming & Messaging

PROVIDER

- Amazon Web Services (1)
- Aqua Security (1)
- AtlasMap (1)
- Banzai Cloud (3)
- CNCF (2)

Show 43 more

MORE THAN JUST A KUBERNETES PLATFORM

RED HAT® QUAY CONTAINER REGISTRY

Enterprise image registry with geo-replication, time machine and security scanning

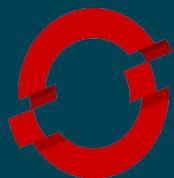
RED HAT® OPENSHIFT Container Storage

Container-optimized software-defined storage on OpenShift

CONTAINER-NATIVE VIRTUALIZATION

Single workflow for containers and virtual machines running on OpenShift

ONE PLATFORM FLEXIBLE CONSUMPTION MODELS



**RED HAT®
OPENSHIFT**
Online



**RED HAT®
OPENSHIFT**
Dedicated



**RED HAT®
OPENSHIFT**
Container Platform

SaaS offering to build, deploy,
and scale container
applications in the cloud

Managed service offering on
your choice of AWS, Azure or
Google

Manage your own secure,
enterprise-grade Kubernetes
platform

Thank you

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500.



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