Combining Industry Leading Container Solutions

CoreOS Tectonic
- Fully integrated and merged with OpenShift
- Adds automated operations and day 2 management (install, upgrades, monitoring, metering and chargeback)
- Best-in-class support for CaaS/KaaS/PaaS use cases

CoreOS Container Linux
- Red Hat CoreOS inspired by Container Linux & RHEL/Atomic
- Fully immutable, container optimized, automatically updated Linux host foundation for OpenShift

CoreOS Quay Registry
- Enterprise container registry; self managed & as-a-service
- Premium offering usable standalone or with OpenShift
- Geo-replication, vulnerability scanning, build automation
Bringing Automated Operations to OpenShift

- App/Service Operations
- Multi-Cluster/Kubernetes Platform Operations
- Linux Host Operations
OPENSШФТ & TECTONIC
+
OPERATOR FRAMEWORK
Infrastructure and Middleware

Large Cloud Providers

Open Source

Single cloud and sticky

Hybrid and open
Operator Framework is an open source toolkit to manage application instances on Kubernetes in an effective, automated and scalable way.
OpenShift will introduce an Admin centric console that leverages the Tectonic console.

- The Operator Lifecycle Management and Metering capabilities of Tectonic will be exposed in this new console.
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
Operator Lifecycle Manager - In OpenShift Admin console

- Administrative view of Operator based services
- Includes catalogue of certified ISV services
- Customers can build/bring their own operator backed apps
- Helm apps are operator backed with zero coding
Phase I
- Installation
  - Automated application provisioning and configuration management

Phase II
- Upgrades
  - Patch and minor version upgrades supported

Phase III
- Lifecycle
  - App lifecycle, storage lifecycle (backup, failure recovery)

Phase IV
- Insights
  - Metrics, alerts, log processing and workload analysis

Phase V
- Auto-pilot
  - Horizontal/vertical scaling, auto config tuning, abnormal detection, scheduling tuning...

No need for operator development
Requires custom Operator - can be facilitated with SDK
60+ ISVs planning to provide initial certified operators

- Certified operators will be available on Red Hat Container Catalog
- Can be imported into OpenShift Operator Lifecycle Manager
- Then exposed in OpenShift Service Catalogue
Compute Nodes

Service Catalogue

Operator Lifecycle Manager

Red Hat Catalogue

End-to-end workflow

Namespace Foo

Couchbase

Couchbase

Couchbase

Apache Spark
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
OpenShift Installation/Upgrade Experience

- Immutable platform on traditional RHEL host
- More customization
- Manage own RHEL/infra, automated w/ Ansible

- Fully immutable infra on Red Hat CoreOS host
- More automation
- Full stack management, from infra to app services
DEMO
RED HAT COREOS
Container Linux

- Minimal Linux distribution
- Optimized for running containers
- Decreased attack surface
- Over-the-air automated updates
DELIVERING IMMUTABLE INFRASTRUCTURE WITH RED HAT COREOS

- Minimal Linux distribution
- Optimized for running containers
- Decreased attack surface
- Over-the-air automated updates
- Ignition-based Metal and Cloud host configuration
- Immutable foundation for OpenShift clusters
Container Linux and Red Hat Enterprise Linux: The road ahead

Ben Breard, Red Hat, Brandon Philips, Red Hat

Now that CoreOS has joined Red Hat, what does the future hold for Container Linux? What about Red Hat Enterprise Linux Atomic Host? Will there be four Linux distributions in the Red Hat family?

In this session, we'll put an end to the speculation and dive into our strategy and roadmap for creating the next chapter in Linux history. Find out how we're changing the game around immutable infrastructure and automating the foundation of Red Hat OpenShift.

Date: Wednesday, May 9
Time: 11:45 AM - 12:30 PM
Room: 2014
Location: Moscone West - 2014
Session Type: Breakout
Session Code: S2704
Quay Enterprise Registry

What is Quay?
Quay is the container and application registry developed by CoreOS. It builds, analyzes and distributes container images, and is used by thousands of companies, large and small, as part of their containerized infrastructure.

- Securely store your containers
- Easily build and deploy new containers
- Automatically scan and secure containers
Red Hat Quay

• **Vulnerability Scanning (powered by Clair)**
  Continually scan your containers for vulnerabilities, giving you complete visibility into known issues and how to fix them

• **Geographic Replication**
  Reliably store, build and deploy a single set of container images across multiple geographies

• **Build Image Triggers**
  As push actions happen in your code repo (GitHub, Bitbucket, GitLab and Git), Quay will automatically build a new version of your app

• **Image Rollback with Time Machine**
  View history of images and quickly and easily switch image builds
THANK YOU

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