RED HAT OPENSTACK PLATFORM
Leading OpenStack to success

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May 3rd 2017
FROM UPSTREAM TO DOWNSTREAM
OPEN SOURCE CULTURE

Collaboration

Shared problems are solved faster

Transparency (both access and the ability to act)

Working together creates standardization

1,000,000+ PROJECTS

*Black Duck and North Bridge, 2015 Future of Open Source survey
We participate in and create community-powered upstream projects.

We integrate upstream projects, fostering open community platforms.

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

*Black Duck and North Bridge, 2015 Future of Open Source survey*
FROM COMMUNITIES TO ENTERPRISE

1,000,000+ PROJECTS

BLACK DUCK AND NORTH BRIDGE, 2015 FUTURE OF OPEN SOURCE SURVEY
PRODUCTION CHAIN

Vision: Product GA as close as possible to the Upstream GA

- Shorten the feedback loop with upstream development
  - No backporting
  - Involve partners in testing during development (DCI)
  - Be influential upstream
    - Automate, automate, automate...
- Simplification of our processes
- Ensuring we maximise the upstream development window
What is a Delivery Focused Group?

Delivery Focused Groups

- “End-to-end” responsibility for a particular aspect of the product
- Self-sufficient with the skills and resources
- Single self prioritized backlog of work
- Cross Functional Teams
- Self Organised
- Multiple components/projects
CULTURE
FROM REQUIREMENTS TO PRODUCT
OpenStack

#pmLIFE
REQUIREMENTS
Requirements sourcing

- Customers
- Bugs
- Partners
- Upstream community
- Corporate strategy
INFLUENCES
Champion, Advocate, Communicator

What PM engagement looks like:

- Upstream
  - Summits, mid-cycles, meetups
  - We advocate for the customer, partner and strategy

- Downstream
  - We advocate for the community
  - We sometimes say No!

Influence Mapping
COPING WITH SPEED & COMPLEXITY
A shared understanding, agility and a TL;DR requirements philosophy.

Influences:
- Customers
- Bugs
- Corporate Strategy
- Upstream Community

Customer/Partner Briefings, Reviews, Workshops

Feature Epics (mini PRD)

Delivery Focused Groups (agile processes)

Product

RED HAT OPENSTACK PLATFORM

Roadmap
Communicating Complexity: Tooling Example
Breaking Down the “Thai Flute” Roadmap

Each bar in the flute represents an Epic. Within the bars are colors that represent the maturity of the features we intend to deliver in that epic.

Bars and their maturity levels are positioned against the OSP release time line below. Together, we can easily see epic, feature and delivery projections.
FROM WISH TO REALITY
OPENSTACK PRODUCT STRATEGY
Stable, production-ready release co-engineered with RHEL

Enterprise Ready

NFV Ready

Optimized Portfolio

Certified Partner Ecosystem

RED HAT
OPENSTACK® PLATFORM
## Lifecycle Consumption Options

**Customers Desiring Longer Life Version**
- Long life versions offered every 3rd release
- Offers standard 3-year lifecycle, with optional 1-2 years of ELS (extended lifecycle support)
- Will offer long life → long life tooling for migrations
- Customers staying on Red Hat OpenStack Platform 10

**Customers Desiring Latest Features**
- Offered on each release
- Supported for 1 year
- Utilize director for automated upgrades and updates continuously
- Customers moving to Red Hat OpenStack Platform 11
Every 6 months we release a version of Red Hat OpenStack Platform supported for 1 year.

Every 18 months we produce a “long life” version, which customers can opt to have support for up to 5 years.

### Lifecycle Support

<table>
<thead>
<tr>
<th></th>
<th>RHOSP 8 Liberty</th>
<th>RHOSP 9 Mitaka</th>
<th>RHOSP 10 Newton</th>
<th>RHOSP 11 Ocata</th>
<th>RHOSP 12 Pike</th>
<th>RHOSP 13 Queens</th>
<th>RHOSP 14 R....</th>
<th>RHOSP 15 S....</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version</td>
<td>3 years</td>
<td>3 years</td>
<td>3 years (+2 years)</td>
<td>1 year</td>
<td>1 year</td>
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#redhat #rhsummit
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Red Hat OpenStack Platform - 10k Foot View

11 RHOSP 11 (Spring 2017)
- Composable HA Architecture
- Composable Upgrades
- Ceph RBD Cinder Volume Replication driver for DR (Tech-preview)
- Opstools performance (collectd client)
- EC2 API deployment support
- Octavia LBaaS (tech preview)

12 RHOSP 12 (Winter 2017)
- Containerized OpenStack Deployment (docker-cmd)
- Instance HA director integration
- Storage Encryption (manual keys)
- Octavia LBaaS full support
- Additional TLS service coverage

13+ (Spring 2018 and beyond)
- Containerized OpenStack Deployment on OpenShift (kubernetes)
- Barbican availability
- Multi-site w/shared Keystone, and Replicated Storage
- Stretched Clusters
- Distributed Compute Nodes
- Introducing tooling for Parallel Cloud Migration

Private IaaS
- Support for VLAN Aware VMs
- Metadata exposure of SRIOV physical function VLAN tags to guests
- OpenDaylight automated deployment using director (tech preview)
- Hyper-Converged Infra

NFV - Telco
- OpenDaylight full support
- Emulator thread policies
- Flexible scheduling for SR-IOV

Hyper-Converged Infra
- RT-KVM full support
- NFV Service Assurance (CloudForm Enhanced Integration)
- NFV Director UI

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Red Hat OpenStack Platform **director**

“Thai Flute” High Level View (Deployment Framework, Upgrades, Containers)

- **GA**: Containerized Compute Role in TP
  - **Composable Upgrades**
  - **Throughout the cycle**: Development of fully containerized docker-cmd solution towards OSP 12

- **GA**: Containerized OpenStack Deployment based on docker-cmd
  - **Composable Updates** (containers)
  - **Rollback of updates in containers**
  - **Revive failed update/upgrade (ansible)**
  - **Modify list of services** on existing roles
  - **Major upgrades of containers via Heat & Ansible**
  - **Rollback of upgrades in containers**

- **GA**: Minimize all Service APIs **downtime to minimum**
  - **Major upgrades of containers via Heat & Ansible**
  - **Rollback of upgrades in containers**

- **GA**: Deployment of containerized OpenStack via Kubernetes as an underlying technology
  - **Minor updates** of containers via K8s
  - **Major upgrades** to K8s deployments
  - **Beyond**: Ansible based deploy (via RHOSP director)

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**Epic maturity legend:**
- **- early**
- **- partial**
- **- good**
- **- strong**

**Non-disruptive updates & upgrades (min service downtime)**

- **Revive or rollback failed update / upgrade**

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OpenStack Platform Security Roadmap
High Level View

Threat and Vulnerability Management
Change Control & Configuration Management
Component & Interface Security
Identity and Access Management
Governance & Risk Mgmt
OSP Security Documentation
Interoperability & Portability
Infrastructure & Virtualization
Encryption & Key Management
Identity and Access Management
Change Control & Configuration Management
Threat and Vulnerability Management
Component & Interface Security
OSP Security Documentation
Governance & Risk Mgmt

11 Ocata
- More coverage of TLS/SSL for internal services
- Maturing Federation services

12 Pike
- TLS/SSL coverage for all internal services

13 Queen
- Attestation/TXT [TP]¹
- Infrastructure & virtualization hardening
- Barbican
- Cinder encrypted volumes

14 R ...
- Attestation/TXT [fully supported]
- CloudForms based Governance and Risk Management

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**RHOSP+Ceph Interop Roadmap**

**High Level View**

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### RHOSP+Ceph Interop Roadmap

- **RHOSP+Ceph Interop Roadmap**
- **High Level View**

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<th>Red Hat Ceph Storage 3.x</th>
<th>Red Hat Ceph Storage 4.x</th>
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<td>Director UI enhancements</td>
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**RBD mirror director integration**

**Director UI enhancements**

**Cloudforms support**

**Cinder RBD replication**

**New DR policy**

**Console integration (Tendrl)**

**Multi-site solution**

**Scaling**

**Cloudforms**

**Continuous Improvements**

**Ocata**

- Allow HCI and non-HCI nodes during the same deployment
- RBD mirror director integration
- OSPd support for dedicated Ceph MON nodes
- Scale testing of OSPd Ceph

**Pike**

- Containerized HCI w/resource mgmt
- Ceph containerization integration
- Rolling Ceph Upgrades via director
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- Console integration (Tendrl TP)

**Queen**

- Rolling Ceph upgrades via director
- Scaling enhancements
- Director UI enhancements
- Cloudforms support
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**R ...**

- Multi-site solution
- Scaling
- Cloudforms
- Continuous Improvements

**Red Hat Ceph Storage 2.1**

**Red Hat Ceph Storage 3.x**

**Red Hat Ceph Storage 4.x**
LEADING OPENSTACK TO SUCCESS?
Mission Accomplished!

We are the "Red Hat" of OpenStack

Slide from my 2013 Summit talk →
Which OpenStack-powered solutions are most used?

A new question on the survey this year, we asked which vendor’s products power users’ OpenStack clouds. Red Hat, Canonical and Mirantis topped the list.

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