Openstack evolution

DID UNICORNS EVER EXIST? “DEPENDS…”

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Red Hat Openstack 13 - Queens

I CAN BARELY

CONTAIN MY EXCITEMENT
**LONG LIFE RELEASE**

Red Hat OpenStack Platform 13 (Queens) is our second Long Life Release

- Choose to upgrade every 6 months and benefit from 1 year of support on that release
- Choose to upgrade every 3 years via long-life releases with an optional extended life-cycle support (ELS) totaling up to 5 years of support

<table>
<thead>
<tr>
<th></th>
<th>Long Life</th>
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</thead>
<tbody>
<tr>
<td>RHOSP 8 Liberty</td>
<td>RHOSP 9 Mitaka</td>
<td>RHOSP 10 Newton</td>
<td>RHOSP 13 Queens</td>
</tr>
<tr>
<td>3 years (ends Apr 2019)</td>
<td>3 years (ends Aug 2019)</td>
<td>3 years (+2 years)*</td>
<td>3 years (+2 years)*</td>
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<tr>
<td></td>
<td>RHOSP 11 Ocata</td>
<td>RHOSP 12 Pike</td>
<td>RHOSP 14 Rocky</td>
</tr>
<tr>
<td>1 year (out of support)</td>
<td>1 year (ends late 2018)</td>
<td>1 year (ends late 2019)</td>
<td>1 year (ends 2020)</td>
</tr>
<tr>
<td></td>
<td>RHOSP 15 Stein</td>
<td>RHOSP 16 T...</td>
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<td>3 years (+2 years)*</td>
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* With Optional Extended Lifecycle Support (ELS)
# Red Hat OpenStack Platform 13

## Introducing Red Hat OpenStack Platform 13

<table>
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<tr>
<th>Lifecycle Management</th>
<th>Storage &amp; HCI</th>
<th>Security</th>
<th>Networking</th>
<th>NFV</th>
<th>Containers</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose to upgrade now or later</td>
<td>Unified storage, data protection and HCI</td>
<td>Enhanced security to help meet compliance</td>
<td>Accommodate the most demanding requirements</td>
<td>Speed and flexibility for high performance environments</td>
<td>Flexibility to deploy and integrate</td>
<td>Enhanced tools to accomplish more tasks</td>
</tr>
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</table>

**The second Long Life Release**
- Upgrade through many releases at once
- Managed OS upgrades

**STORAGE & HCI**
- File storage joins block and object
- Data protection, Encryption
- Hyper-converged Infra for Cloud

**Security**
- Best security practices
- Programmatic secrets management
- More encrypted endpoints
- Supports industry certifications

**Networking**
- Open source SDN controller
- Enterprise LBaaS
- Reliable, robust, virtual and high performance networking

**NFV**
- More ways to meet deterministic computing requirements

**Containers**
- OpenShift on OpenStack support
- Integrated networking - Kuryr

**Operations**
- Simplér installation
- Unified Openstack and Container Networking
- Consistent control over all services

#RedHatOSD
FAST FORWARD UPGRADES
Facilitates accelerated upgrades between long life releases

Minimum of 3-year support
+ optional 2-year support extension through extended life-cycle support

Accelerated upgrade process and in-place upgrade without additional hardware
CEPH UNIFIED STORAGE
File Storage Support Added With CephFS and Manila

S3-like Container registries Developers
VM Devices Database Image store backing Monitoring and management High I/O
Shared file systems Structured files Data Analytics

Comprehensive Block, Object, and File storage solutions from Red Hat

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ENHANCED DATA SECURITY WITH CEPH STORAGE ENCRYPTION

Encrypted volumes and images

SECURE VIRTUAL MACHINE FILESYSTEMS

CINDER VOLUME ENCRYPTION

Allows LUKS-encrypted cinder volumes to be created and used in RBD/Cinder deployments. Keys are managed securely in the Key management service, creating an automated solution from top to bottom.

SECURE VIRTUAL MACHINE CATALOG IMAGES

GLANCE IMAGE SIGNING

Ensures that an image uploaded into Glance has not been changed or modified. Uses the Key management service to easily verify image signatures and security automatically.

+ PROGRAMMATIC KEY MANAGEMENT (Barbican)
ENHANCED SECURITY WITH PROGRAMMATIC SECRETS MANAGEMENT

Introducing Barbican

Barbican provides an API for accessing your secrets storage such as HSM’s and other data vaults.
More and more internal endpoints are now encrypted with TLS:
- Block storage (cinder)
- Secrets API (barbican)
- Metrics (redis)
- SDN (OpenDaylight)
- Remote consoles (VNC)

**Compliance**
- FedRAMP
- ANSSI
- ETSI

**Security Guide**
ENHANCED LAYER 2 & LAYER 3 NETWORKING SUPPORT

Open Virtual Network (OVN)

Distributed database-driven solution
Agentless
Inclusion of security groups, routers, L2/L3
Cross-product (RHEL, RHV, OCP)

NOTE: OVN must be called specifically at deploy time. Upgrade tooling for ML2 to OVS is coming in a future release.
CLOUD-NATIVE LOAD BALANCING

Introducing Octavia

Octavia uses OpenStack services to provide load balancing via virtual machines with deep integration into OpenStack.
Predictable Low-Latency for Real Time Computing & Analytics

Faster response times

<table>
<thead>
<tr>
<th>DIRECTOR + TUNING + RED HAT EXPERTISE</th>
<th>RED HAT® OPENSTACK® PLATFORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL TIME OVERCLOUD IMAGE</td>
<td>KVM</td>
</tr>
<tr>
<td>REAL TIME KVM KERNEL ENHANCEMENTS</td>
<td></td>
</tr>
<tr>
<td>RED HAT® ENTERPRISE LINUX®</td>
<td>REAL TIME ENABLED KERNEL</td>
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AN OPEN SOURCE INTEGRATED SDN CONTROLLER

Bringing an integrated SDN lifecycle to Red Hat OpenStack Platform.
Kuryr with OCP 3.11 is in Technology Preview
VIRTUALIZED MANAGEMENT INFRASTRUCTURE

Use Red Hat Virtualization to save time and money

**YES!**
You can now use the features already in Red Hat Virtualization for Red Hat OpenStack Platform services.*

* Does not provide RHV as a hypervisor for OSP workloads.
RHOSP 13 - Queens Key takeaways

- Long life release (3+2 years) based on Openstack Queens release
- Fast Forward Upgrade from 10 -> 13
- Cinder volume encryption
- Manila file sharing with CephFS
- Barbican
- OVN fully support
- Real Time KVM
- Opendaylight
GRAZIE PER L’ATTENZIONE

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