Release Notes

Release details for Red Hat OpenStack Platform 16.2-Beta
Abstract

This document outlines the major features, enhancements, and known issues in this release of Red Hat OpenStack Platform.
Table of Contents

MAKING OPEN SOURCE MORE INCLUSIVE ................................................................. 3

CHAPTER 1. INTRODUCTION ................................................................................... 4
  1.1. ABOUT THIS RELEASE .................................................................................. 4
  1.2. REQUIREMENTS .......................................................................................... 4
  1.3. DEPLOYMENT LIMITS .................................................................................. 4
  1.4. DATABASE SIZE MANAGEMENT .................................................................. 5
  1.5. CERTIFIED DRIVERS AND PLUG-INS ....................................................... 5
  1.6. CERTIFIED GUEST OPERATING SYSTEMS ............................................... 5
  1.7. PRODUCT CERTIFICATION CATALOG ...................................................... 5
  1.8. BARE METAL PROVISIONING OPERATING SYSTEMS ............................... 5
  1.9. HYPERVISOR ............................................................................................. 5
  1.10. CONTENT DELIVERY NETWORK (CDN) REPOSITORIES .......................... 5
      1.10.1. Undercloud repositories .................................................................... 6
      1.10.2. Overcloud repositories .................................................................... 8
  1.11. PRODUCT SUPPORT .................................................................................. 13

CHAPTER 2. TOP NEW FEATURES .......................................................................... 14
  2.1. RED HAT OPENSTACK PLATFORM DIRECTOR .......................................... 14
  2.2. COMPUTE ................................................................................................... 14
  2.3. DISTRIBUTED COMPUTE NODES (DCN) ................................................... 14
  2.4. NETWORKING ............................................................................................ 15
  2.5. STORAGE ................................................................................................... 15
  2.6. BARE METAL SERVICE .............................................................................. 15
  2.7. NETWORK FUNCTIONS VIRTUALIZATION ................................................ 16
  2.8. TECHNOLOGY PREVIEWS ......................................................................... 16

CHAPTER 3. RELEASE INFORMATION .................................................................... 17
  3.1. RED HAT OPENSTACK PLATFORM 16.2 BETA .......................................... 17
      3.1.1. Bug Fix ................................................................................................. 17
      3.1.2. Enhancements .................................................................................... 18
      3.1.3. Technology Preview .......................................................................... 19
      3.1.4. Release Notes .................................................................................... 19
      3.1.5. Known Issues .................................................................................... 20
      3.1.6. Deprecated Functionality ................................................................... 20
Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. Because of the enormity of this endeavor, these changes will be implemented gradually over several upcoming releases. For more details, see our CTO Chris Wright’s message.
CHAPTER 1. INTRODUCTION

1.1. ABOUT THIS RELEASE

This release of Red Hat OpenStack Platform is based on the OpenStack “Train” release. It includes additional features, known issues, and resolved issues specific to Red Hat OpenStack Platform.

Only changes specific to Red Hat OpenStack Platform are included in this document. The release notes for the OpenStack “Train” release itself are available at the following location: https://releases.openstack.org/train/index.html.

Red Hat OpenStack Platform uses components from other Red Hat products. For specific information pertaining to the support of these components, see https://access.redhat.com/site/support/policy/updates/openstack/platform/.

To evaluate Red Hat OpenStack Platform, sign up at http://www.redhat.com/openstack/.

NOTE

The Red Hat Enterprise Linux High Availability Add-On is available for Red Hat OpenStack Platform use cases. For more details about the add-on, see http://www.redhat.com/products/enterprise-linux-add-ons/high-availability/. For details about the package versions to use in combination with Red Hat OpenStack Platform, see https://access.redhat.com/site/solutions/509783.

1.2. REQUIREMENTS

This beta version of Red Hat OpenStack Platform runs on the most recent fully supported release of Red Hat Enterprise Linux version 8.4.

The Red Hat OpenStack Platform dashboard is a web-based interface that allows you to manage OpenStack resources and services.

- Chrome
- Mozilla Firefox
- Mozilla Firefox ESR
- Internet Explorer 11 and later (with Compatibility Mode disabled)

NOTE

You can use Internet Explorer 11 to display the dashboard but expect a degradation of some functionalities because the browser is no longer maintained.

NOTE

Prior to deploying Red Hat OpenStack Platform, it is important to consider the characteristics of the available deployment methods. For more information, see Installing and Managing Red Hat OpenStack Platform.

1.3. DEPLOYMENT LIMITS
For a list of deployment limits for Red Hat OpenStack Platform, see Deployment Limits for Red Hat OpenStack Platform.

1.4. DATABASE SIZE MANAGEMENT

For recommended practices on maintaining the size of the MariaDB databases in your Red Hat OpenStack Platform environment, see Database Size Management for Red Hat Enterprise Linux OpenStack Platform.

1.5. CERTIFIED DRIVERS AND PLUG-INS

For a list of the certified drivers and plug-ins in Red Hat OpenStack Platform, see Component, Plug-In, and Driver Support in Red Hat OpenStack Platform.

1.6. CERTIFIED GUEST OPERATING SYSTEMS

For a list of the certified guest operating systems in Red Hat OpenStack Platform, see Certified Guest Operating Systems in Red Hat OpenStack Platform and Red Hat Enterprise Virtualization.

1.7. PRODUCT CERTIFICATION CATALOG

For a list of the Red Hat Official Product Certification Catalog, see Product Certification Catalog.

1.8. BARE METAL PROVISIONING OPERATING SYSTEMS

For a list of the guest operating systems that can be installed on bare metal nodes in Red Hat OpenStack Platform through Bare Metal Provisioning (ironic), see Supported Operating Systems Deployable With Bare Metal Provisioning (ironic).

1.9. HYPERVERSOR

This beta release of the Red Hat OpenStack Platform uses only the libvirt driver (using KVM as the hypervisor on Compute nodes).

This beta release of the Red Hat OpenStack Platform runs with Bare Metal Provisioning.

Bare Metal Provisioning has been fully supported since the release of Red Hat OpenStack Platform 7 (Kilo). Bare Metal Provisioning allows you to provision bare-metal machines using common technologies (such as PXE and IPMI) to cover a wide range of hardware while supporting pluggable drivers to allow the addition of vendor-specific functionality.

Red Hat does not provide support for other Compute virtualization drivers such as the deprecated VMware "direct-to-ESX" hypervisor or non-KVM libvirt hypervisors.

1.10. CONTENT DELIVERY NETWORK (CDN) REPOSITORIES

This section describes the repositories required to deploy Red Hat OpenStack Platform 16.2 Beta.

You can install Red Hat OpenStack Platform 16.2 Beta through the Content Delivery Network (CDN) using subscription-manager. For more information, see Preparing the undercloud.
1.10.1. Undercloud repositories

Red Hat OpenStack Platform 16.2-beta runs on Red Hat Enterprise Linux 8.4. As a result, you must lock the content from these repositories to the respective Red Hat Enterprise Linux version.

NOTE

If you synchronize repositories with Red Hat Satellite, you can enable specific versions of the Red Hat Enterprise Linux repositories. However, the repository remains the same despite the version you choose. For example, you can enable the 8.4 version of the BaseOS repository, but the repository name is still **rhel-8-for-x86_64-baseos-eus-rpms** despite the specific version you choose.

WARNING

Any repositories outside the ones specified here are not supported. Unless recommended, do not enable any other products or repositories outside the ones listed in the following tables or else you might encounter package dependency issues. Do not enable Extra Packages for Enterprise Linux (EPEL).

Core repositories

The following table lists core repositories for installing the undercloud.

<table>
<thead>
<tr>
<th>Name</th>
<th>Repository</th>
<th>Description of requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hat Enterprise Linux 8 for x86_64 - BaseOS (RPMs) Extended Update Support (EUS)</td>
<td><strong>rhel-8-for-x86_64-baseos-eus-rpms</strong></td>
<td>Base operating system repository for x86_64 systems.</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 8 for x86_64 - AppStream (RPMs)</td>
<td><strong>rhel-8-for-x86_64-appstream-eus-rpms</strong></td>
<td>Contains Red Hat OpenStack Platform dependencies.</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 8 for x86_64 - High Availability (RPMs) Extended Update Support (EUS)</td>
<td><strong>rhel-8-for-x86_64-highavailability-eus-rpms</strong></td>
<td>High availability tools for Red Hat Enterprise Linux. Used for Controller node high availability.</td>
</tr>
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<td>Name</td>
<td>Repository</td>
<td>Description of requirement</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>Red Hat Ansible Engine 2.9 for RHEL 8 x86_64 (RPMs)</td>
<td>ansible-2.9-for-rhel-8-x86_64-rpms</td>
<td>Ansible Engine for Red Hat Enterprise Linux. Used to provide the latest version of Ansible.</td>
</tr>
<tr>
<td>Red Hat Satellite Tools for RHEL 8 Server RPMs x86_64</td>
<td>satellite-tools-&lt;satellite-version&gt;-for-rhel-8-x86_64-rpms</td>
<td>Tools for managing hosts with Red Hat Satellite 6, where &lt;satellite-version&gt; is the version of Red Hat Satellite Server that you use.</td>
</tr>
<tr>
<td>Red Hat OpenStack Platform 16.2-Beta for RHEL 8 (RPMs)</td>
<td>openstack-beta-for-rhel-8-x86_64-rpms</td>
<td>Core Red Hat OpenStack Platform repository, which contains packages for Red Hat OpenStack Platform director.</td>
</tr>
<tr>
<td>Red Hat Fast Datapath for RHEL 8 (RPMS)</td>
<td>fast-datapath-for-rhel-8-x86_64-rpms</td>
<td>Provides Open vSwitch (OVS) packages for OpenStack Platform.</td>
</tr>
</tbody>
</table>

**Ceph repositories**

The following table lists Ceph Storage related repositories for the undercloud.

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<tr>
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<th>Description of Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hat Ceph Storage Tools 4 for RHEL 8 x86_64 (RPMs)</td>
<td>rhceph-4-tools-for-rhel-8-x86_64-rpms</td>
<td>Provides tools for nodes to communicate with the Ceph Storage cluster. The undercloud requires the ceph-ansible package from this repository if you plan to use Ceph Storage in your overcloud or if you want to integrate with an existing Ceph Storage cluster.</td>
</tr>
</tbody>
</table>

**IBM POWER repositories**

The following table contains a list of repositories for Red Hat Openstack Platform on POWER PC architecture. Use these repositories in place of equivalents in the Core repositories.

<table>
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<tr>
<th>Name</th>
<th>Repository</th>
<th>Description of requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hat Enterprise Linux for IBM Power, little endian - BaseOS (RPMs)</td>
<td>rhel-8-for-ppc64le-baseos-rpms</td>
<td>Base operating system repository for ppc64le systems.</td>
</tr>
</tbody>
</table>
### 1.10.2. Overcloud repositories

Red Hat OpenStack Platform 16.2-beta runs on Red Hat Enterprise Linux 8.4. As a result, you must lock the content from these repositories to the respective Red Hat Enterprise Linux version.

**NOTE**

If you synchronize repositories with Red Hat Satellite, you can enable specific versions of the Red Hat Enterprise Linux repositories. However, the repository remains the same despite the version you choose. For example, you can enable the 8.4 version of the BaseOS repository, but the repository name is still `rhel-8-for-x86_64-baseos-eus-rpms` despite the specific version you choose.

**WARNING**

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#### Controller node repositories

The following table lists core repositories for Controller nodes in the overcloud.
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<th>Name</th>
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<td>Contains Red Hat OpenStack Platform dependencies.</td>
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<td>Red Hat Enterprise Linux 8 for x86_64 - High Availability (RPMs) Extended Update Support (EUS)</td>
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<td>High availability tools for Red Hat Enterprise Linux.</td>
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<td>Red Hat Ansible Engine 2.9 for RHEL 8 x86_64 (RPMs)</td>
<td>ansible-2.9-for-rhel-8-x86_64-rpms</td>
<td>Ansible Engine for Red Hat Enterprise Linux. Used to provide the latest version of Ansible.</td>
</tr>
<tr>
<td>Advanced Virtualization for RHEL 8 x86_64 (RPMs)</td>
<td>advanced-virt-for-rhel-8-x86_64-rpms</td>
<td>Provides virtualization packages for OpenStack Platform.</td>
</tr>
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<td>Tools for Red Hat Ceph Storage 4 for Red Hat Enterprise Linux 8.</td>
</tr>
<tr>
<td>Red Hat Ceph Storage MON 4 for RHEL 8 x86_64 (RPMs)</td>
<td>rceph-4-mon-for-rhel-8-x86_64-rpms</td>
<td>Repository for Ceph Storage Monitor daemon. Installed on Controller nodes in OpenStack environments using Ceph Storage nodes.</td>
</tr>
<tr>
<td>Red Hat Satellite Tools for RHEL 8 Server RPMs x86_64</td>
<td>satellite-tools-&lt;satellite-version&gt;-for-rhel-8-x86_64-rpms</td>
<td>Tools for managing hosts with Red Hat Satellite 6, where &lt;satellite-version&gt; is the version of Red Hat Satellite Server that you use.</td>
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**Compute node repositories**

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**Real Time Compute repositories**

The following table lists repositories for Real Time Compute (RTC) functionality.

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</thead>
</table>
Red Hat Enterprise Linux 8 for x86_64 - Real Time (RPMs)  
**rhel-8-for-x86_64-rt-rpms**  
Repository for Real Time KVM (RT-KVM). Contains packages to enable the real time kernel. Enable this repository for all Compute nodes targeted for RT-KVM. NOTE: You need a separate subscription to a **Red Hat OpenStack Platform for Real Time** SKU to access this repository.

Red Hat Enterprise Linux 8 for x86_64 - Real Time for NFV (RPMs)  
**rhel-8-for-x86_64-nfv-rpms**  
Repository for Real Time KVM (RT-KVM) for NFV. Contains packages to enable the real time kernel. Enable this repository for all NFV Compute nodes targeted for RT-KVM. NOTE: You need a separate subscription to a **Red Hat OpenStack Platform for Real Time** SKU to access this repository.

### Ceph Storage node repositories

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<td>Red Hat OpenStack Platform 16.2-Beta Director Deployment Tools for RHEL 8 x86_64 (RPMs)</td>
<td><strong>openstack-beta-deployment-tools-for-rhel-8-x86_64-rpms</strong></td>
<td>Packages to help director configure Ceph Storage nodes. This repository is included with standalone Ceph Storage subscriptions. If you use a combined OpenStack Platform and Ceph Storage subscription, use the <strong>openstack-beta-for-rhel-8-x86_64-rpms</strong> repository.</td>
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<td>rhceph-4-osd-for-rhel-8-x86_64-rpms</td>
<td>(For Ceph Storage Nodes) Repository for Ceph Object Storage daemon. Installed on Ceph Storage nodes.</td>
</tr>
<tr>
<td>Red Hat Ceph Storage MON 4 for RHEL 8 x86_64 (RPMs)</td>
<td>rhceph-4-mon-for-rhel-8-x86_64-rpms</td>
<td>(For Ceph Storage Nodes) Repository for Ceph Monitor daemon. Installed on standalone Ceph MON nodes.</td>
</tr>
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<td>Red Hat Ceph Storage Tools 4 for RHEL 8 x86_64 (RPMs)</td>
<td>rhceph-4-tools-for-rhel-8-x86_64-rpms</td>
<td>Provides tools for nodes to communicate with the Ceph Storage cluster.</td>
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**IBM POWER repositories**

The following table lists repositories for Openstack Platform on POWER PC architecture. Use these repositories in place of equivalents in the Core repositories.

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<td>Provides Open vSwitch (OVS) packages for OpenStack Platform.</td>
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### 1.11. PRODUCT SUPPORT

Available resources include:

**Customer Portal**

The Red Hat Customer Portal offers a wide range of resources to help guide you through planning, deploying, and maintaining your Red Hat OpenStack Platform deployment. Facilities available via the Customer Portal include:

- Product documentation
- Knowledge base articles and solutions
- Technical briefs
- Support case management

Access the Customer Portal at [https://access.redhat.com/](https://access.redhat.com/).

**Mailing Lists**

Red Hat provides these public mailing lists that are relevant to Red Hat OpenStack Platform users:

- The `rhsa-announce` mailing list provides notification of the release of security fixes for all Red Hat products, including Red Hat OpenStack Platform.


**Beta Release Support Limits**

Updates to the beta content on the Content Delivery Network (CDN) will be determined at the discretion of the OpenStack product team. There are no plans nor guarantees for updates to the beta code on CDN. Also:

- The beta code should not be used with production data or on production systems.
- No guarantee of support is provided, but feedback and bug reports are welcome as are discussions with your account representative, partner contact, TAM, and so on.
- Upgrades to or from a beta are not supported nor recommended.
- No errata to the beta will be provided.

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<td>Ansible Engine for Red Hat Enterprise Linux. Used to provide the latest version of Ansible.</td>
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<td>Core Red Hat OpenStack Platform repository for ppc64le systems.</td>
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CHAPTER 2. TOP NEW FEATURES

This section provides an overview of the top new features in this release of Red Hat OpenStack Platform.

2.1. RED HAT OPENSTACK PLATFORM DIRECTOR

This section outlines the top new features for Red Hat OpenStack Platform director.

Validation framework output formats

Red Hat OpenStack Platform contains a validation framework to help verify the requirements and functionality of the undercloud and overcloud. The framework includes new output formats for validation logs:

**validation_json**

The framework saves JSON-formatted validation results as a log file in `/var/logs/validations`. This is the default callback for the validation framework.

**validation_stdout**

The framework displays JSON-formatted validation results on screen.

**http_json**

The framework sends JSON-formatted validation results to an external logging server.

Set the desired format using the `ANSIBLE_STDOUT_CALLBACK` environment variable with your `openstack tripleo validator run` command:

```
$ openstack tripleo validator run --extra-env-vars ANSIBLE_STDOUT_CALLBACK=<callback> --validation check-ram
```

2.2. COMPUTE

This section outlines the top new features for the Compute service.

Memory encryption for instances

You can configure AMD SEV Compute nodes to provide cloud users the ability to create instances that use memory encryption. For more information, see Configuring AMD SEV Compute nodes to provide memory encryption for instances.

vGPU resize and cold migration

Instances with a vGPU flavor are automatically re-allocated the vGPU resources after resize and cold migration operations.

2.3. DISTRIBUTED COMPUTE NODES (DCN)

This section outlines the top new features for Distributed Compute Nodes (DCN).

ML2/OVN support

In Red Hat OpenStack Platform 16.2, the Modular Layer 2 plug-in with the Open Virtual Network mechanism driver (ML2/OVN) is now fully supported for DCN architectures.

Support for externally managed Ceph
In Red Hat OpenStack Platform 16.2, you can now manage Ceph outside of director for DCN deployments.

**Exclude RAW images from DCN edge sites**

In Red Hat OpenStack Platform 16.2, you can use the `NovaImageTypeExcludeList` with a value of `raw` to exclude raw images from advertisement on edge sites that do not have Ceph storage. Excluding raw images from sites without storage limits the use of unnecessary network and local storage resources.

### 2.4. NETWORKING

This section outlines the top new features for the Networking service.

**ML2/OVN support for routed provider networks**

Starting in Red Hat OpenStack Platform 16.2, you can deploy routed provider networks using the Modular Layer 2 plug-in with the Open Virtual Network mechanism driver (ML2/OVN). Routed provider networks are common in edge distributed compute node (DCN) and spine-leaf routed data center deployments. They enable a single provider network to represent multiple layer 2 networks (broadcast domains) or network segments, permitting the operator to present only one network to users.

For more information, see [Deploying routed provider networks](#) in the Networking Guide.

**Availability zones for ML2/OVS and ML2/OVN**

The Red Hat OpenStack Platform Networking service now enables you to group nodes in availability zones (AZs). For nodes that run crucial services, you can schedule these nodes for resources with high availability. AZs are supported only for the Modular Layer 2 plug-in with the Open Virtual Network (ML2/OVN) and Open vSwitch (ML2/OVS) mechanism drivers. For more information, see [Using availability zones to make network resources highly available](#) in the Networking Guide.

### 2.5. STORAGE

This section outlines the top new features for the Storage service.

**Sparse image upload**

With the Image service (glance) API, you can enable sparse image upload to reduce demand on the image storage back end. In sparse images, the Image service does not interpret null byte (empty) sequences as data, therefore only the data itself consumes storage. This feature is particularly useful in distributed compute node (DCN) environments. Sparse image upload also reduces network traffic and improves the image upload speed.

**Multiple back ends**

By default, a standard Shared File Systems deployment environment file has a single back end. With this release, the Shared File Systems service supports using one or more supported back ends.

**RBD clone v2 support**

This feature allows you to delete resources that have dependencies, such as snapshots.

**Image pre-caching**

Red Hat OpenStack Platform (RHOSP) director can pre-cache images as part of the glance-api service. With this release, the image pre-cache feature is fully supported.

### 2.6. BARE METAL SERVICE

This section outlines the top new features for the Bare Metal (ironic) service.

**Policy-based routing**
With this enhancement, you can use policy-based routing for OpenStack nodes to configure multiple route tables and routing rules with `os-net-config`. Policy-based routing uses route tables where, on a host with multiple links, you can send traffic through a particular interface depending on the source address. You can also define route rules for each interface.

2.7. NETWORK FUNCTIONS VIRTUALIZATION

This section outlines the top new features for Network Functions Virtualization (NFV).

Modify kernel args

Red Hat OpenStack Platform 16.2-beta includes an update to allow you to modify the kernel args on a deployed node.

AMD support for SRIOV and DPDK

Red Hat OpenStack Platform 16.2-beta includes support for Single Root Input/Output Virtualization (SR-IOV) and Data Plane Development Kit (DPDK) workloads on AMD hosts.

2.8. TECHNOLOGY PREVIEWS

This section provides an overview of the top new technology previews in this release of Red Hat OpenStack Platform.

**NOTE**

For more information on the support scope for features marked as technology previews, see [Technology Preview Features Support Scope](#).

Red Hat OpenStack Platform director operator

The Red Hat OpenStack Platform (RHOSP) director operator creates a set of custom resource definitions (CRDs) on top of Red Hat OpenShift to manage resources normally created by the RHOSP undercloud. CRDs are split into two types for hardware provisioning and software configuration which aligns well with the RHOSP undercloud lite architecture. The operator includes CRDs to create and manage overcloud nets (IPAM), VMSets (for RHOSP Controllers), and BaremetalSets (for RHOSP Computes).

For Technology Preview, the software configuration is accomplished with an OpenStackClient pod using traditional RHOSP/TripleO interfaces and CLI commands. Work is ongoing to produce a more scalable Heat to Ansible playbook deployment workflow within the RHOSP director operator.

ML2/OVN security groups logging

A technology preview is available for network logging based on security groups for the Modular Layer 2 plug-in with the Open Virtual Network mechanism driver (ML2/OVN). This feature uses the ML2/OVN northbound database to manage affected security group rules. You can use this network log data for a variety of purposes such as defending against cyber attacks, or for generalized auditing, troubleshooting, and monitoring.

Transport Layer Security everywhere (TLS-e) now includes memcached

As a technology preview, you can now configure memcached traffic to be encrypted when setting up TLS-e.

Precision Time Protocol

A technology preview is available that supports Precision Time Protocol (PTP) with Timemaster in NFV deployments.
CHAPTER 3. RELEASE INFORMATION

These release notes highlight technology preview items, recommended practices, known issues, and deprecated functionality that you should consider when you deploy this release of Red Hat OpenStack Platform. Notes for updates released during the support lifecycle of this Red Hat OpenStack Platform release appear in the advisory text associated with each update.

3.1. RED HAT OPENSTACK PLATFORM 16.2 BETA

These release notes highlight technology preview items, recommended practices, known issues, and deprecated functionality to be taken into consideration when deploying this release of Red Hat OpenStack Platform.

3.1.1. Bug Fix

These bugs were fixed in this release of Red Hat OpenStack Platform:

BZ#1690726

Before this update, writing an image to RBD could be very slow. This update improves the process for writing an image to RBD, which improves the time it takes for images to be written to RBD.

BZ#1844372

Before this update, when you resized or migrated an instance that had a vGPU flavor you needed to rebuild the instance manually to re-allocate the vGPU resources. With this update, instances with a vGPU flavor are automatically re-allocated the vGPU resources after resize and cold migration operations.

BZ#1851051

Before this update, RBD performance was degraded when multiple instances were launched simultaneously. This was due to the Image service starting multiple threads to perform the same copying operation. This update resolves the issue.

BZ#1888105

When multiple storage backends are configured on the Shared File Systems service, each storage backend might support a different storage protocol. Before this update, the Shared File Systems service scheduler did not consider the storage protocol and capability of the shared storage backends when deciding where to place them, which caused share provisioning to fail. With this update, the Shared File Systems service scheduler now automatically considers the share type extra specs with the storage protocol, which makes it possible use the CapabilitiesFilter to compare storage backend capabilities and provision shares successfully.

BZ#1913671

The Unisphere for PowerMax REST endpoints have changed from 91 to 92. This update changes how URIs are created, to allow for full coverage of all possible Unisphere REST API endpoints.

BZ#1919855

When an instance is created, the Compute (nova) service sanitizes the instance display name to generate a valid hostname when DNS integration is enabled in the Networking (neutron) service. Before this update, the sanitization did not replace periods (‘.’) in instance names, for example, ‘rhel-8-4’. This could result in display names being recognized as Fully Qualified Domain Names (FQDNs) which produced invalid hostnames. When instance names contained periods and DNS integration was enabled in the Networking service, the Networking service would reject the invalid hostname resulting in a failure to create the instance and a HTTP 500 server error from the Compute service.

With this update, periods are now replaced by hyphens in instance names to prevent hostnames being parsed as FQDNs. You can continue to use free-form strings for instance display names.
Before this update, some exceptions were not being caught during connections to iSCSI portals, such as failures in `iscsiadm -m session`. This caused `_connect_vol` threads to abort unexpectedly in some failure patterns, which caused subsequent steps to hang while waiting for results from `_connect_vol` threads. This update ensures that any exceptions during connections to iSCSI portals are handled correctly in the `_connect_vol` method, to avoid unhandled exceptions during connecting to iSCSI portals, and unexpected aborts that have no updated thread results.

This update adds CHAP support to the Dell EMC PowerStore driver. PowerStore can now be used with enabled CHAP as a storage backend.

Before this update, Ansible redirected output to all registered non-stdout callback plugins by default, which resulted in VF callbacks processing information from other processes using `ansible runtime`. This issue has been resolved and the output of other processes is no longer stored in the validations logging directory.

Before this update, the Shared File Systems service (manila) dashboard had dynamic form elements whose names could potentially cause the forms to become unresponsive. This meant that the creation of share groups, share networks, and shares within share networks did not work. With this update, dynamic elements whose names could be problematic are encoded, which means that creation of share groups, share networks, and shares within share networks functions normally.

### 3.1.2. Enhancements

This release of Red Hat OpenStack Platform features the following enhancements:

**BZ#1866741**

Images with null bytes take up a lot of space. With this release, you can enable sparse image upload and save space when you upload images. Sparse image upload is supported only with Ceph RBD.

**BZ#1897890**

This enhancement improves the efficiency, performance, and execution time of deployment and update tasks for environments with a large number of roles. The logging output of the deployment process has been improved to include task IDs for better tracking of specific task executions, which can occur at different times. The task IDs can now be used to correlate timing and execution when troubleshooting executions.

**BZ#1900723**

During stack update the `KernelArgs` could be modified or appended. A reboot of the affected nodes needs to be performed manually.

For example, if the current deployment has the following configuration, it is possible to change `hugepages=64`, or add or remove arguments during the stack update:

```text
'KernelArgs: "default_hugepagesz=1GB hugepagesz=1G hugepages=32 intel_iommu=on iommu=pt isolcpus=1-11,13-23"'
```

For example:

```text
KernelArgs: "default_hugepagesz=1GB hugepagesz=1G hugepages=64 intel_iommu=on iommu=pt isolcpus=1-24"
KernelArgs: "isolcpus=1-11,13-23"
```
3.1.3. Technology Preview

The items listed in this section are provided as Technology Previews. For further information on the scope of Technology Preview status, and the associated support implications, refer to https://access.redhat.com/support/offerings/techpreview/.

BZ#1619266

A technology preview is available for network logging based on security groups for the the Modular Layer 2 plug-in with the Open Virtual Network mechanism driver (ML2/OVN). Unlike ML2/OVS, the driver for this functionality leverages the ML2/OVN northbound database to manage affected security group rules, and there is no need for an agent. You can use this network log data for a variety of purposes such as defending against cyber attacks, or for generalized auditing, troubleshooting, and monitoring.

BZ#1925999

The Red Hat OpenStack Platform (RHOSP) director operator creates a set of custom resource definitions (CRDs) on top of Red Hat OpenShift to manage resources normally created by the RHOSP undercloud. CRDs are split into two types for hardware provisioning and software configuration which aligns well with the RHOSP undercloud lite architecture. The operator includes CRDs to create and manage overcloud nets (IPAM), VMSets (for RHOSP Controllers), and BaremetalSets (for RHOSP Computes).

For Technology Preview, the software configuration is accomplished with an OpenStackClient pod using traditional RHOSP/TripleO interfaces and CLI commands. Work is ongoing to produce a more scalable Heat to Ansible playbook deployment workflow within the RHOSP director operator.

BZ#1825895

A technology preview is available for NFV deployments that supports Precision Time Protocol (PTP) with Timemaster.

3.1.4. Release Notes

This section outlines important details about the release, including recommended practices and notable changes to Red Hat OpenStack Platform. You must take this information into account to ensure the best possible outcomes for your deployment.

BZ#1654408

For glance image conversion, the glance-direct method is not enabled by default. To enable this feature, set enabled_import_methods to [glance-direct,web-download] or [glance-direct] in the DEFAULT section of the glance-api.conf file.

The Image Service (glance) must have a staging area when you use the glance-direct import method. Set the node_staging_uri option in the DEFAULT section of the glance-api.conf file to file://<absolute-directory-path>. This path must be on a shared file system that is available to all Image Service API nodes.
In this release, EFI bootloader assets for whole-disk images are preserved during deployment, so the shim bootloader is no longer overwritten. This ensures that Secure Boot is switched on after deployment.

### 3.1.5. Known Issues

These known issues exist in Red Hat OpenStack Platform at this time:

#### BZ#1972774

There is currently a known issue when using ML2/OVN with other Neutron agents. ML2/OVN is preventing RPC workers from connecting to the OVN southbound database, which is causing other Neutron agents, such as Neutron DHCP, to fail when they try to create resources in OVN.

#### BZ#1978158

There is a known issue where the Open Virtual Network (OVN) northbound database can degrade Red Hat OpenStack Platform performance. The cause for this is that the QoS for floating IPs feature leaves residual data in the database. Currently, there is no workaround. Red Hat recommends that the QoS for floating IPs feature not be used until this issue is resolved. For more information, see BZ#1978158.

#### BZ#1983748

In Red Hat OpenStack Platform (RHOSP) deployments that use the Modular Layer 2 plug-in with the Open vSwitch (ML2/OVS) mechanism driver, there is currently a known issue where the RHOSP Orchestration service (heat) parameter, `NeutronL3AgentAvailabilityZone` does not set the relevant Neutron L3 agent parameter correctly. Workaround: use a custom hieradata statement to set this value. In the example that follows, replace `[ROLE]` with the composable role name that is appropriate for your site.

```
[ROLE]ExtraConfig:
    neutron::agents::l3::availability_zone: role_availability_zone
```

For more information, see Puppet: Customizing hieradata for roles in the Advanced Overcloud Customization guide and BZ#1983748.

### 3.1.6. Deprecated Functionality

The items in this section are either no longer supported, or will no longer be supported in a future release.

#### BZ#1868673

For Distributed Compute Node deployments which use storage, `dcn-hci.yaml` has been renamed to `dcn-storage.yaml` because DCN sites with storage have the option of not using HCI (Hyper-Converged Infrastructure). `dcn-hci.yaml` is deprecated but will remain in the environments directory for backwards compatibility. `dcn-hci.yaml` will be removed in Red Hat OpenStack platform 17. `dcn-storage.yaml` should be used in place of `dcn-hci.yaml`.