



Red Hat OpenStack Platform 15-Beta

Release Notes

Release details for Red Hat OpenStack Platform 15

Red Hat OpenStack Platform 15-Beta Release Notes

Release details for Red Hat OpenStack Platform 15

OpenStack Documentation Team
Red Hat Customer Content Services
rhos-docs@redhat.com

Legal Notice

Copyright © 2019 Red Hat, Inc.

The text of and illustrations in this document are licensed by Red Hat under a Creative Commons Attribution–Share Alike 3.0 Unported license ("CC-BY-SA"). An explanation of CC-BY-SA is available at

<http://creativecommons.org/licenses/by-sa/3.0/>

. In accordance with CC-BY-SA, if you distribute this document or an adaptation of it, you must provide the URL for the original version.

Red Hat, as the licensor of this document, waives the right to enforce, and agrees not to assert, Section 4d of CC-BY-SA to the fullest extent permitted by applicable law.

Red Hat, Red Hat Enterprise Linux, the Shadowman logo, the Red Hat logo, JBoss, OpenShift, Fedora, the Infinity logo, and RHCE are trademarks of Red Hat, Inc., registered in the United States and other countries.

Linux[®] is the registered trademark of Linus Torvalds in the United States and other countries.

Java[®] is a registered trademark of Oracle and/or its affiliates.

XFS[®] is a trademark of Silicon Graphics International Corp. or its subsidiaries in the United States and/or other countries.

MySQL[®] is a registered trademark of MySQL AB in the United States, the European Union and other countries.

Node.js[®] is an official trademark of Joyent. Red Hat is not formally related to or endorsed by the official Joyent Node.js open source or commercial project.

The OpenStack[®] Word Mark and OpenStack logo are either registered trademarks/service marks or trademarks/service marks of the OpenStack Foundation, in the United States and other countries and are used with the OpenStack Foundation's permission. We are not affiliated with, endorsed or sponsored by the OpenStack Foundation, or the OpenStack community.

All other trademarks are the property of their respective owners.

Abstract

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

Table of Contents

CHAPTER 1. INTRODUCTION	3
1.1. ABOUT THIS RELEASE	3
1.2. REQUIREMENTS	3
1.3. DEPLOYMENT LIMITS	3
1.4. DATABASE SIZE MANAGEMENT	4
1.5. CERTIFIED DRIVERS AND PLUG-INS	4
1.6. CERTIFIED GUEST OPERATING SYSTEMS	4
1.7. BARE METAL PROVISIONING OPERATING SYSTEMS	4
1.8. HYPERVISOR	4
1.9. CONTENT DELIVERY NETWORK (CDN) REPOSITORIES	4
1.9.1. Undercloud repositories	5
1.9.2. Overcloud repositories	6
1.10. PRODUCT SUPPORT	9
CHAPTER 2. TOP NEW FEATURES	10
2.1. RED HAT ENTERPRISE LINUX 8 FEATURES THAT AFFECT RED HAT OPENSTACK PLATFORM 15 BETA	10
2.2. RED HAT OPENSTACK PLATFORM DIRECTOR	11
2.3. COMPUTE	12
2.4. OPENSTACK NETWORKING	13
2.5. STORAGE	13
2.6. CEPH STORAGE	13
2.7. TECHNOLOGY PREVIEWS	13
2.7.1. New Technology Previews	13
CHAPTER 3. RELEASE INFORMATION	15
3.1. RED HAT OPENSTACK PLATFORM 15 BETA	15
3.1.1. Enhancements	15
3.1.2. Technology Preview	16
3.1.3. Release Notes	17
3.1.4. Known Issues	17
3.1.5. Deprecated Functionality	18

CHAPTER 1. INTRODUCTION

1.1. ABOUT THIS RELEASE

This beta release of Red Hat OpenStack Platform is based on the OpenStack "Stein" release. It includes additional features, known issues, and resolved issues specific to Red Hat OpenStack Platform.

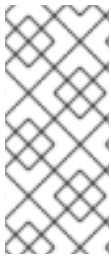
Only changes specific to Red Hat OpenStack Platform are included in this document. The release notes for the OpenStack "Stein" release itself are available at the following location:

<https://releases.openstack.org/stein/index.html>.

Red Hat OpenStack Platform uses components from other Red Hat products. See the following link(s) for specific information pertaining to the support of these components:

<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. See the following link for more details about the add-on: <http://www.redhat.com/products/enterprise-linux-add-ons/high-availability/>. See the following link for details about the package versions to use in combination with Red Hat OpenStack Platform: <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).

The Red Hat OpenStack Platform dashboard is a web-based interface that allows you to manage OpenStack resources and services. The dashboard for this release runs on the latest stable versions of the following web browsers:

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



NOTE

Prior to deploying Red Hat OpenStack Platform, it is important to consider the characteristics of the available deployment methods. For more information, refer to the [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. 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 \(ironic\)](#).

1.8. HYPERVISOR

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.

1.9. CONTENT DELIVERY NETWORK (CDN) REPOSITORIES

This section describes the repositories required to deploy Red Hat OpenStack Platform 15.

You can install Red Hat OpenStack Platform 15 through the Content Delivery Network (CDN) using **subscription-manager**. For more information, see [Preparing the undercloud](#)



WARNING

Some packages in the Red Hat OpenStack Platform software repositories conflict with packages provided by the Extra Packages for Enterprise Linux (EPEL) software repositories. The use of Red Hat OpenStack Platform on systems with the EPEL software repositories enabled is unsupported.

1.9.1. Undercloud repositories

Enable the following repositories for the installation and configuration of the undercloud.

Core repositories

The following table lists core repositories for installing the undercloud.

Name	Repository	Description of Requirement
Red Hat Enterprise Linux 8 for x86_64 - BaseOS (RPMs)	rhel-8-for-x86_64-baseos-rpms	Base operating system repository for x86_64 systems.
Red Hat Enterprise Linux 8 for x86_64 - AppStream (RPMs)	rhel-8-for-x86_64-appstream-rpms	Contains Red Hat OpenStack Platform dependencies.
Red Hat Enterprise Linux 8 for x86_64 - High Availability (RPMs)	rhel-8-for-x86_64-highavailability-rpms	High availability tools for Red Hat Enterprise Linux. Used for Controller node high availability.
Red Hat Ansible Engine 2.8 for RHEL 8 x86_64 (RPMs)	ansible-2.8-for-rhel-8-x86_64-rpms	Ansible Engine for Red Hat Enterprise Linux. Used to provide the latest version of Ansible.
Red Hat Satellite Tools for RHEL 8 Server RPMs x86_64	satellite-tools-6.5-for-rhel-8-x86_64-rpms	Tools for managing hosts with Red Hat Satellite 6.
Red Hat OpenStack Platform 15 for RHEL 8 (RPMs)	openstack-beta-for-rhel-8-x86_64-rpms	Core Red Hat OpenStack Platform repository, which contains packages for Red Hat OpenStack Platform director.

Ceph repositories

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

Name	Repository	Description of Requirement
------	------------	----------------------------

Name	Repository	Description of Requirement
Red Hat Ceph Storage Tools 4 for RHEL 8 x86_64 (RPMs)	rhceph-4-tools-for-rhel-8-x86_64-rpms	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.

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.

Name	Repository	Description of Requirement
Red Hat Enterprise Linux for IBM Power, little endian - BaseOS (RPMs)	rhel-8-for-ppc64le-baseos-rpms	Base operating system repository for ppc64le systems.
Red Hat Enterprise Linux 8 for IBM Power, little endian - AppStream (RPMs)	rhel-8-for-ppc64le-appstream-rpms	Contains Red Hat OpenStack Platform dependencies.
Red Hat Enterprise Linux 8 for IBM Power, little endian - High Availability (RPMs)	rhel-8-for-ppc64le-highavailability-rpms	High availability tools for Red Hat Enterprise Linux. Used for Controller node high availability.
Red Hat Ansible Engine 2.8 for RHEL 8 IBM Power, little endian (RPMs)	ansible-2.8-for-rhel-8-ppc64le-rpms	Ansible Engine for Red Hat Enterprise Linux. Used to provide the latest version of Ansible.
Red Hat OpenStack Platform 15 for RHEL 8 (RPMs)	openstack-beta-for-rhel-8-ppc64le-rpms	Core Red Hat OpenStack Platform repository for ppc64le systems.

1.9.2. Overcloud repositories

You must enable the following repositories to install and configure the overcloud.

Core repositories

The following table lists core repositories for installing the overcloud.

Name	Repository	Description of Requirement
Red Hat Enterprise Linux 8 for x86_64 - BaseOS (RPMs)	rhel-8-for-x86_64-baseos-rpms	Base operating system repository for x86_64 systems.

Name	Repository	Description of Requirement
Red Hat Enterprise Linux 8 for x86_64 - AppStream (RPMs)	rhel-8-for-x86_64-appstream-rpms	Contains Red Hat OpenStack Platform dependencies.
Red Hat Enterprise Linux 8 for x86_64 - High Availability (RPMs)	rhel-8-for-x86_64-highavailability-rpms	High availability tools for Red Hat Enterprise Linux. Used for Controller node high availability.
Red Hat Ansible Engine 2.8 for RHEL 8 x86_64 (RPMs)	ansible-2.8-for-rhel-8-x86_64-rpms	Ansible Engine for Red Hat Enterprise Linux. Used to provide the latest version of Ansible.
Red Hat Satellite Tools for RHEL 8 Server RPMs x86_64	satellite-tools-6.5-for-rhel-8-x86_64-rpms	Tools for managing hosts with Red Hat Satellite 6.
Red Hat OpenStack Platform 15 for RHEL 8 (RPMs)	openstack-beta-for-rhel-8-x86_64-rpms	Core Red Hat OpenStack Platform repository.

Ceph repositories

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

Name	Repository	Description of Requirement
Red Hat Ceph Storage OSD 4 for RHEL 8 x86_64 (RPMs)	rhceph-4-osd-for-rhel-8-x86_64-rpms	(For Ceph Storage Nodes) Repository for Ceph Storage Object Storage daemon. Installed on Ceph Storage nodes.
Red Hat Ceph Storage MON 4 for RHEL 8 x86_64 (RPMs)	rhceph-4-mon-for-rhel-8-x86_64-rpms	(For Ceph Storage Nodes) Repository for Ceph Storage Monitor daemon. Installed on Controller nodes in OpenStack environments using Ceph Storage nodes.
Red Hat Ceph Storage Tools 4 for RHEL 8 x86_64 (RPMs)	rhceph-4-tools-for-rhel-8-x86_64-rpms	Provides tools for nodes to communicate with the Ceph Storage cluster. This repository should be enabled for all nodes when deploying an overcloud with a Ceph Storage cluster.

Real Time repositories

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

Name	Repository	Description of Requirement
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. This repository should be enabled for all Compute nodes targeted for RT-KVM. NOTE: You need a separate subscription to a Red Hat OpenStack Platform for Real Time SKU before you can 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. This repository should be enabled 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 before you can access this repository.

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.

Name	Repository	Description of Requirement
Red Hat Enterprise Linux for IBM Power, little endian - BaseOS (RPMs)	rhel-8-for-ppc64le-baseos-rpms	Base operating system repository for ppc64le systems.
Red Hat Enterprise Linux 8 for IBM Power, little endian - AppStream (RPMs)	rhel-8-for-ppc64le-appstream-rpms	Contains Red Hat OpenStack Platform dependencies.
Red Hat Enterprise Linux 8 for IBM Power, little endian - High Availability (RPMs)	rhel-8-for-ppc64le-highavailability-rpms	High availability tools for Red Hat Enterprise Linux. Used for Controller node high availability.
Red Hat Ansible Engine 2.8 for RHEL 8 IBM Power, little endian (RPMs)	ansible-2.8-for-rhel-8-ppc64le-rpms	Ansible Engine for Red Hat Enterprise Linux. Used to provide the latest version of Ansible.
Red Hat OpenStack Platform 15 for RHEL 8 (RPMs)	openstack-beta-for-rhel-8-ppc64le-rpms	Core Red Hat OpenStack Platform repository for ppc64le systems.

1.10. 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/>.

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.

Subscribe at <https://www.redhat.com/mailman/listinfo/rhsa-announce>.

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.

For more information, see the Red Hat OpenStack Platform 15 Beta Frequently Asked Questions (FAQ) at <https://access.redhat.com/articles/4261791>.

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 ENTERPRISE LINUX 8 FEATURES THAT AFFECT RED HAT OPENSTACK PLATFORM 15 BETA

This section outlines new features in Red Hat Enterprise Linux 8 that affect Red Hat OpenStack Platform 15 Beta.

Red Hat OpenStack Platform 15 now uses Red Hat Enterprise Linux 8 for the operating system. This includes the undercloud node, the overcloud nodes, and containerized services. Some key differences between Red Hat Enterprise Linux 7 and 8 impact the architecture of Red Hat OpenStack Platform 15. The following list provides information on these key differences and their effect on Red Hat OpenStack Platform:

New Red Hat Enterprise Linux 8 repositories

In addition to the Red Hat OpenStack Platform 15 repository, OpenStack Platform now uses a new set of repositories specific to Red Hat Enterprise Linux 8. This includes the following repositories:

- **BaseOS** for the main operating system packages.
- **AppStream** for dependencies such as Python 3 packages and virtualization tools.
- **High Availability** for Red Hat Enterprise Linux 8 versions of high availability tools.
- **Red Hat Ansible Engine** for the latest supported version of Ansible engine.

This change affects the repositories you must enable for both the undercloud and overcloud.

Red Hat Enterprise Linux 8 container images

All OpenStack Platform 15 container images use Red Hat Enterprise Linux 8 Universal Base Image (UBI) as a basis. OpenStack Platform director automatically configures these container images during undercloud and overcloud creation.



IMPORTANT

Red Hat does not support running OpenStack Platform containers based on Red Hat Enterprise Linux 7 on a Red Hat Enterprise Linux 8 host.

Red Hat Enterprise Linux 8 bare metal images

All OpenStack Platform 15 overcloud kernel, ramdisk, and QCOW2 images use Red Hat Enterprise Linux 8 as a basis. This includes OpenStack Bare Metal (ironic) introspection images.

Python 3 packages

All OpenStack Platform 15 services use Python 3 packages.

New Container Tools

Red Hat Enterprise Linux 8 no longer includes Docker. Instead, Red Hat provides new tools for building and managing containers:

- **Pod Manager (Podman)** is a container management tool that implements almost all Docker CLI commands, not including commands related to Docker Swarm. Podman manages pods,

containers, and container images. One of the major differences between Podman and Docker is Podman can manage resources without a daemon running in the background. For more information on Podman, see the Podman website.

- **Buildah** specializes in building Open Containers Initiative (OCI) images, which you use in conjunction with Podman. Buildah commands replicate what you find in a Dockerfile. Buildah also provides a lower-level **coreutils** interface to build container images, which allows you to build containers without requiring a Dockerfile. Buildah can also use other scripting languages to build container images without requiring a daemon.

Docker Registry Replacement

Red Hat Enterprise Linux 8 no longer includes the **docker-distribution** package, which installed a Docker Registry v2. To maintain the compatibility, OpenStack Platform 15 includes an Apache web server and a virtual host called **image-serve**, which provides a container registry. Like **docker-distribution**, this registry uses port 8787/TCP with SSL/TLS disabled.

This registry is a **read-only container registry** and does not support **podman push** nor **buildah push** commands. This means the registry does not allow you to push non-director and non-OpenStack Platform containers. However, you can modify supported OpenStack Platform images with the director's container preparation workflow, which uses the **ContainerImagePrepare** parameter.

Network Time Synchronization

Red Hat Enterprise Linux 8 no longer includes **ntpd** to synchronize your system clock. Red Hat Enterprise Linux 8 now provides **chronyd** as a replacement service. The director configures **chronyd** automatically but be advised that manual time synchronization requires the execution of the **chronyc** client.

High Availability and Shared Services

- **Pacemaker 2.0 support.** This release upgrades the version of Pacemaker to 2.0 to support deployment on top of Red Hat Enterprise Linux 8, including support for Knet and multiple NICs. You can now use the director to configure fencing with Pacemaker for your high availability cluster.
- **HAProxy 1.8 support in director.** This release upgrades the version of HAProxy to 1.8 to support deployment on top of Red Hat Enterprise Linux 8. You can now use the director to configure HAProxy for your high availability cluster.

2.2. RED HAT OPENSTACK PLATFORM DIRECTOR

This section outlines the top new features for the director.

Deploy and manage multiple overclouds from a single undercloud

This release includes the capability to deploy multiple overclouds from a single undercloud.

- Interact with a single undercloud to manage multiple distinct overclouds, for example, Edge, multi-site, or multi-product solutions.
- Switch context on the undercloud to interact with different overclouds.
- Reduce redundant management nodes.

Deploy an all-in-one overcloud

This release includes the capability to deploy standalone overclouds that contain Controller, Compute, and storage services.

- Use the **Standalone.yaml** role file to deploy all-in-one overclouds.
- Enable and disable services on the all-in-one overcloud
- Customize services with additional environment files.
- The following services are enabled by default:
 - Keystone
 - Nova and related services
 - Neutron and related services
 - Glance
 - Cinder
 - Swift
 - Horizon

Unified composable service templates

This release includes a unified set of composable service templates in **/usr/share/openstack-tripleo-heat-templates/deployment/**. These templates merge service configuration from previous template sets:

- The containerized templates previously in **/usr/share/openstack-tripleo-heat-templates/docker/services/**.
- The Puppet-based templates previously in **/usr/share/openstack-tripleo-heat-templates/puppet/services/**.

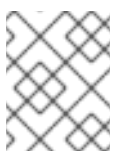
Most service resources, which start with the **OS::TripleO::Services** Heat namespace, now refer to the unified template set. A few minor services still refer to legacy templates in **/usr/share/openstack-tripleo-heat-templates/puppet/services/**.

2.3. COMPUTE

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

Virtual GPU (vGPU) support for instances (full support)

To access GPU-based rendering on your guest instances, you can define and manage virtual GPU (vGPU) resources according to your available physical GPU devices. This configuration allows you to more effectively divide the rendering workloads between all your physical GPU devices, and to have more control over scheduling, tuning, and monitoring your vGPU-enabled guest instances.



NOTE

- Only one vGPU type is supported per physical GPU, and only one vGPU resource is supported per guest instance.

NUMA-aware vSwitches (full support)

OpenStack Compute now takes into account the NUMA node location of physical NICs when launching a Compute instance. This helps to reduce latency and improve performance when managing DPDK-enabled interfaces.

2.4. OPENSTACK NETWORKING

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

ML2/OVN Default Plugin

OVN replaces OVS as the default ML2 mechanism driver. OVN offers a shared networking back end across the RedHat portfolio, giving operators a consistent experience across multiple products. Its architecture offers simpler foundations than OVS, and better performance.

ML2/OVS to ML2/OVN Migration

This update provides an in-place migration strategy from ML2/OVS to ML2/OVN in either ovs-firewall or ovs-hybrid mode for an OpenStack deployment with director.

2.5. STORAGE

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

Simultaneously attach a volume to multiple machines

In Red Hat OpenStack Platform 15, if the back end driver supports it, you can now simultaneously attach a volume to multiple machines for both the Block Storage service (cinder) and the Compute service (nova). This feature addresses the use case for clustered application workloads that typically requires active/active or active/standby scenarios.

Image Service - Deploy glance-cache on far-edge nodes

This feature enables deploying Image service (glance) caching at the edge. This feature improves the boot time for instances and decreases the bandwidth usage between core and edge sites, which is useful in medium to large edge sites to avoid using compute nodes to fetch images from the core site.

2.6. CEPH STORAGE

This section outlines the top new features for Ceph Storage.

Red Hat Ceph Storage Upgrade To maintain compatibility with Red Hat Enterprise Linux 8, Red Hat OpenStack Platform 15 Beta, director deploys Red Hat Ceph Storage 4 Beta. Red Hat OpenStack Platform 15 running on RHEL8 enables you to connect to a preexisting external Red Hat Ceph Storage 3 cluster running on RHEL7.

2.7. TECHNOLOGY PREVIEWS

This section outlines features that are in technology preview in Red Hat OpenStack Platform 15.



NOTE

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

2.7.1. New Technology Previews

New Director feature to create an active-active configuration for Block Storage service

With Red Hat OpenStack Platform director you can now deploy the Block Storage service (cinder) in an active-active configuration on Ceph RADOS Block Device (RBD) back ends only.

The new `cinder-volume-active-active.yaml` file defines the active-active cluster name by assigning a value to the `CinderVolumeCluster` parameter. `CinderVolumeCluster` is a global Block Storage parameter, and prevents you from including clustered (active-active) and non-clustered back ends in the same deployment.

The `cinder-volume-active-active.yaml` file causes director to use the non-Pacemaker, `cinder-volume` Orchestration service template, and adds the `etcd` service to your Red Hat OpenStack Platform deployment as a distributed lock manager (DLM).

New director parameter for configuring Block Storage service availability zones

With Red Hat OpenStack Platform director you can now configure different availability zones for Block Storage service (cinder) volume back ends. Director has a new parameter, `CinderXXXAvailabilityZone`, where `XXX` is associated with a specific back end.

New Redfish BIOS management interface for Bare Metal service

Red Hat OpenStack Platform Bare Metal service (ironic) now has a BIOS management interface, with which you can inspect and modify a device's BIOS configuration.

In Red Hat OpenStack Platform 15, the Bare Metal service supports BIOS management capabilities for data center devices that are Redfish API compliant. The Bare Metal service implements Redfish calls through the Python library, `Sushy`.

Using separate heat stacks

You can now use separate heat stacks for different types of nodes. For example, you can have a stack just for the control plane, a stack for Compute nodes, and another stack for HCI nodes. This approach has the following benefits:

- Management - You can modify and manage your nodes without needing to make changes to the control plane stack.
- Scaling out - You do not need to update all nodes just to add more Compute or Storage nodes; the separate heat stack means that these operations are isolated to selected node types.
- Edge sites - You can segment an edge site within its own heat stack, thereby reducing network and management dependencies on the central data center. The edge site must have its own Availability Zone for its Compute and Storage nodes.

Deploying multiple Ceph clusters

You can use director to deploy multiple Ceph clusters (either standalone Ceph or hyper-converged), using separate heat stacks for each cluster. For edge sites, you can deploy a hyper-converged infrastructure (HCI) stack that uses Compute and Ceph storage on a single node. For example, you might deploy two edge stacks named **HCI-01** and **HCI-02**, each in their own availability zone. As a result, each edge stack has its own Ceph cluster and Compute services.

Distributed Compute Nodes with multiple Ceph clusters support via director

This feature allows director to deploy and manage multiple Red Hat Ceph Storage clusters, enabling persistent Ceph Storage at the edge. Each remote site can use a local Ceph cluster, ensuring local isolation for performance, security, and improved day-two operations. This feature is fully compatible with Red Hat Hyperconverged Infrastructure for Cloud where OpenStack compute nodes and Ceph Storage services are collocated on the same machines. Red Hat Hyperconverged Infrastructure for Cloud reduces the hardware footprint at the edge where space and power are limited.

CHAPTER 3. RELEASE INFORMATION

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. RED HAT OPENSTACK PLATFORM 15 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. Enhancements

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

[BZ#1484601](#)

The Shared File Systems service (manila) API now supports Transport Layer Security (TLS) endpoints on the internal API network, through SSL/TLS certificates. The Shared File Systems service is automatically secured when you opt to secure Red Hat OpenStack Platform during deployment.

[BZ#1526109](#)

A new Red Hat OpenStack Platform Bare Metal service (ironic) driver for XClarity managed Lenovo devices is available. The xclarity driver provides more reliable operation on Lenovo devices managed with XClarity, and opportunities for additional vendor-specific features in the future.

[BZ#1579371](#)

In Red Hat OpenStack Platform 15, the Kuryr-Kubernetes container network interface (CNI) plug-in is highly available (active/passive mode).

[BZ#1585012](#)

You can now configure automatic restart of VM instances on a Compute node if the compute node reboots without first migrating the instances.

With the following two new parameters, you can configure the Red Hat OpenStack Platform Compute service (nova) and the libvirt-guests agent to shut down VM instances gracefully and start them when the Compute node reboots:

- NovaResumeGuestsStateOnHostBoot (True or False)
- NovaResumeGuestsShutdownTimeout (default, 300s)

[BZ#1601576](#)

Red Hat OpenStack Platform undercloud networks are now layer 3 (L3) capable. This enhancement enables all segments to use one network, and alleviates the need for service net map overrides.

This enhancement is important for Red Hat OpenStack Platform edge computing sites that deploy roles in different sites and make service net map overrides unwieldy.

BZ#1633146

Red Hat OpenStack Platform director now has the ability to control Block Storage service (cinder) snapshots on NFS back ends. A new director parameter, `CinderNfsSnapshotSupport`, has a default value of `True`.

BZ#1635862

Using the Red Hat OpenStack Platform director, you can now configure the Image service (glance) to have an optional local image cache. You turn on the image cache, by setting the “`GlanceCacheEnabled`” property to `True`.

A typical use case for the image cache is edge computing. Because the Image service resides at central site, you can deploy and enable the image cache at remote sites and save bandwidth and reduce the Image service’s boot time.

BZ#1647057

With Paunch you can now manage container memory consumption using three new attributes: `mem_limit`, `memswap_limit`, and `mem_swappiness`.

BZ#1661022

In Red Hat OpenStack Platform 15, if the back end driver supports it, you can now simultaneously attach a volume to multiple machines for both the Block Storage service (cinder) and the Compute service (nova). This feature addresses the use case for clustered application workloads that typically requires active/active or active/standby scenarios.

3.1.2. 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#1593758

Red Hat OpenStack Platform Bare Metal service (ironic) now has a BIOS management interface, with which you can inspect and modify a device’s BIOS configuration.

In Red Hat OpenStack Platform 15, the Bare Metal service supports BIOS management capabilities for data center devices that are Redfish API compliant. The Bare Metal service implements Redfish calls through the Python library, `Sushy`.

BZ#1636040

With Red Hat OpenStack Platform director you can now deploy the Block Storage service (cinder) in an active-active configuration on Ceph RADOS Block Device (RBD) back ends only.

The new `cinder-volume-active-active.yaml` file defines the active-active cluster name by assigning a value to the `CinderVolumeCluster` parameter. `CinderVolumeCluster` is a global Block Storage parameter, and prevents you from including clustered (active-active) and non-clustered back ends in the same deployment.

The `cinder-volume-active-active.yaml` file causes director to use the non-Pacemaker, cinder-volume Orchestration service template, and adds the etcd service to your Red Hat OpenStack Platform deployment as a distributed lock manager (DLM).

BZ#[1636179](#)

With Red Hat OpenStack Platform director you can now configure different availability zones for Block Storage service (cinder) volume back ends. Director has a new parameter, `CinderXXXAvailabilityZone`, where XXX is associated with a specific back end.

3.1.3. 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#[1585835](#)

The Shared File Systems service (manila) API now runs behind the Apache HTTP Server (httpd). The Apache error and access logs from the Shared File Systems service are available in `/var/log/containers/httpd/manila-api` on all the nodes that run the manila API container.

The log location of the main API service (manila-api) has not changed, and continues to be written on each node in `/var/log/containers/manila/`.

BZ#[1613038](#)

The Block Storage service (cinder) command, "snapshot-manageable-list," now lists the snapshots on the back end for Red Hat Ceph RADOS block devices (RBD).

3.1.4. Known Issues

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

BZ#[1713329](#)

Red Hat OpenStack Platform deployments that use the Linux bridge ML2 driver and agent are unprotected against Address Resolution Protocol (ARP) spoofing. The version of Ethernet bridge frame table administration (eatables) that is part of Red Hat Enterprise Linux 8 is incompatible with the Linux bridge ML2 driver.

The Linux Bridge ML2 driver and agent were deprecated in Red Hat OpenStack Platform 11, and should not be used.

Red Hat recommends that you use instead the ML2 Open Virtual Network (OVN) driver and services, the default deployed by the Red Hat OpenStack Platform director.

BZ#[1722041](#)

When the "live_migration_wait_for_vif_plug" flag and OVN are enabled, the Red Hat OpenStack Platform Compute service (nova) times out, because the "network-vif-plugged" event never occurs.

The workaround is to disable the "live_migration_wait_for_vif_plug" flag. Disabling this flag does not

impact the live migration feature.

When OVN is used, the default is: `live_migration_wait_for_vif_plug = false`.

[BZ#1730325](#)

Red Hat OpenStack Platform 15 now uses Podman instead of Docker to manage containers on each host. Red Hat Engineering is currently investigating memory leaks at different levels (podman exec, SELinux and kernel) which can cause a system to crash after a few days. OpenStack Platform nodes, free memory runs low and the eventual lack of memory kills processes. These process do not become responsive again.

OpenStack Platform 15 uses `podman exec` mostly for container health checks. As a method to delay the problem, disable these health checks. On the undercloud, set the `container_healthcheck_disabled` parameter to `True`. On the Overcloud, set `ContainerHealthcheckDisabled` to `True` in an environment file.

3.1.5. Deprecated Functionality

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

[BZ#1676951](#)

In Red Hat OpenStack Platform 15, the monitoring agent, Sensu client service, is deprecated.

In a future Red Hat OpenStack Platform version, the Sensu client service will be removed.

[BZ#1702694](#)

In Red Hat OpenStack Platform 15, Red Hat OpenStack director (TripleO) no longer supports deploying Red Hat OpenShift Container Platform 3.11 clusters on bare metal nodes using the OpenShift installation playbooks (provided in the `openshift-ansible` package) and Orchestration service (heat) templates.

To deploy OpenShift 3.11 on bare metal nodes, use the OpenShift installation playbooks exclusively without Orchestration service templates. You can provision Red Hat Enterprise Linux on bare metal nodes using Red Hat OpenStack Platform with the Bare Metal service (ironic) or by performing a manual installation.

[BZ#1722809](#)

In Red Hat OpenStack Platform 15, the legacy network scripts are deprecated. In a future Red Hat OpenStack Platform version, the legacy network scripts will be removed and replaced by Red Hat Enterprise Linux NetworkManager.