



Red Hat OpenStack Services on OpenShift 18.0 Beta

Release notes

Release notes for the Red Hat OpenStack Services on OpenShift 18.0 Beta release

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Abstract

The release notes provide high-level coverage of the improvements and additions that have been implemented in Red Hat OpenStack Services on OpenShift 18.0 Beta and document known problems in this release, as well as notable bug fixes, technology previews, deprecated functionality, and other details.

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PREFACE

The release notes provide high-level coverage of the improvements and additions that have been implemented in Red Hat OpenStack Services on OpenShift 18.0 Beta and document known problems in this release, as well as notable bug fixes, technology previews, deprecated functionality, and other details.

MAKING OPEN SOURCE MORE INCLUSIVE

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](#).

PROVIDING FEEDBACK ON RED HAT DOCUMENTATION

We appreciate your input on our documentation. Tell us how we can make it better.

Providing documentation feedback in Jira

Use the [Create Issue](#) form to provide feedback on the documentation. The Jira issue will be created in the Red Hat OpenStack Platform Jira project, where you can track the progress of your feedback.

1. Ensure that you are logged in to Jira. If you do not have a Jira account, create an account to submit feedback.
2. Click the following link to open a the **Create Issue** page: [Create Issue](#)
3. Complete the **Summary** and **Description** fields. In the **Description** field, include the documentation URL, chapter or section number, and a detailed description of the issue. Do not modify any other fields in the form.
4. Click **Create**.

CHAPTER 1. NEW AND ENHANCED FEATURES

This section provides an overview of features that have been added to or significantly enhanced in this release of Red Hat OpenStack Services on OpenShift (RHOSO).

RHOSO improves substantially over previous versions of Red Hat OpenStack Platform (RHOSP). The RHOSO control plane is natively hosted on the Red Hat OpenShift Container Platform (RHOCP) and the external RHEL-based data plane and workloads are managed with Ansible. This shift in architecture aligns with Red Hat's platform infrastructure strategy. You can future proof your existing investments by using RHOCP as a hosting platform for all of your infrastructure services.

RHOSP 17.1 is the last version of the product to use the director-based OpenStack on OpenStack form-factor for the control plane.

1.1. CONTROL PLANE NEW AND ENHANCED FEATURES

Control plane deployed on Red Hat OpenShift Container Platform (RHOCP)

The director-based undercloud is replaced by a control plane that is natively hosted on an RHOCP cluster and managed with the OpenStack Operator. The RHOSO control plane features include:

- Deployed in pods and governed by Kubernetes Operators.
- Deploys in minutes, consuming only a fraction of the CPU and RAM footprint required by earlier RHOSP releases.
- Takes advantage of native Kubernetes mechanisms for high availability.
- Features built-in monitoring based on RHOCP Observability.

1.2. DATA PLANE NEW AND ENHANCED FEATURES

Ansible-managed data plane

The director-deployed overcloud is replaced by a data plane driven by the RHOCP Data Plane Operator and executed by Ansible. RHOSO data plane features include:

- The OpenStack **DataPlaneNodeSet** custom resource definition (CRD), which provides a highly parallel deployment model.
- Micro failure domains based on the OpenStack **DataPlaneNodeSet** CRD. If one or more node sets fail, the other node sets run to completion because there is no interdependency between node sets.
- Faster deployment times compared to previous RHOSP versions.
- Highly configurable data plane setup based on the OpenStack **DataPlaneNodeSet** and **DataPlaneService** CRDs.

1.3. NETWORKING NEW AND ENHANCED FEATURES

DPDK Telemetry

DPDK telemetry provides valuable resource consumption insights into virtual machine (VM) workloads when deploying OVS-DPDK.

Egress QoS support at NIC level using DCB(DEVELOPMENT PREVIEW)

Egress quality of service (QoS) at the network interface controller (NIC) level uses the Data Center Bridging Capability Exchange (DCBX) protocol to configure egress QoS at the NIC level in the host. It triggers the configuration and provides the information directly from the top of rack (ToR) switch that peers with the host NIC. This capability, combined with egress QoS and OVS/OVN, enables end-to-end egress QoS.

This is a Developer Preview feature. A Developer Preview feature might not be fully implemented and tested. Some features might be absent, incomplete, or not work as expected.

Configuring and deploying networking with Kubernetes NMState Operator and the RHEL NetworkManager service

The RHOSO bare-metal network deployment uses **os-net-config** with a Kubernetes NMState Operator and NetworkManager back end. Therefore, administrators can use the Kubernetes NMState Operator, **nmstate**, and the RHEL NetworkManager CLI tool **nmcli** to configure and deploy networks on the data plane, instead of legacy **ifcfg** files and **network-init-scripts**.

1.4. STORAGE NEW AND ENHANCED FEATURES

Integration with external Red Hat Ceph Storage (RHCS) 7 clusters

You can integrate RHOSO with external RHCS 7 clusters to include RHCS capabilities with your deployment.

Distributed image import

RHOSO 18.0 introduces distributed image import for the Image service (glance). With this feature, you do not need to configure a shared staging area for different API workers to access images that are imported to the Image service. Now the API worker that owns the image data is the same API worker that performs the image import.

Block Storage service (cinder) backup and restore for thin volumes

The backup service for the Block Storage service service now preserves sparseness when restoring a backup to a new volume. This feature ensures that restored volumes use the same amount of storage as the backed up volume. It does not apply to RBD backups, which use a different mechanism to preserve sparseness.

Support for RHCS RBD deferred deletion

RHOSO 18.0 introduces Block Storage service and Image service RBD deferred deletion, which improves flexibility in the way RBD snapshot dependencies are managed. With deferred deletion, you can delete a resource such as an image, volume, or snapshot even if there are active dependencies.

Shared File Systems service (manila) CephFS NFS driver with Ganesha Active/Active

The CephFS-NFS driver for the Shared File Systems service now consumes an active/active Ganesha cluster by default, improving both the scalability and high availability of the Ceph NFS service.

Unified OpenStack client parity with native Shared File Systems service client

The Shared File Systems service now fully supports the **openstack** client command line interface.

1.5. SECURITY NEW AND ENHANCED FEATURES

This section outlines the top new and enhanced features for RHOSO security services.

FIPS enabled by default

- Federal Information Processing Standard (FIPS) is enabled by default when RHOSO is installed on a FIPS enabled RHOCF cluster in new deployments.

- You do not enable or disable FIPS in your RHOSO configuration. You control the FIPS state in the underlying RHOCP cluster.
- Adoption of an existing FIPS-enabled deployment is not available in RHOSO 18.0 Beta.

TLS-everywhere enabled by default

After deployment, you can configure public services with your own certificates.

Secure RBAC enabled by default

The Secure Role-Based Access Control (RBAC) policy framework is enabled by default in RHOSO deployments.

Key Manager (barbican) enabled by default

The Key Manager is enabled by default in RHOSO deployments.

1.6. HIGH AVAILABILITY NEW AND ENHANCED FEATURES

High availability managed natively in RHOCP

RHOSO high availability (HA) uses RHOCP primitives instead of RHOSP services to manage failover and recovery deployment.

1.7. UPGRADES NEW AND ENHANCED FEATURES

Improved updates and upgrades experience

RHOSO uses the RHOCP rolling update and upgrade capabilities to improve the updates and upgrades experience.

Adopting a RHOSP 17.1 environment to RHOSO

Adopt your existing Red Hat OpenStack Platform 17.1 environment to RHOSO 18.0 while minimizing impact to your workloads. Use the Data Plane Operator (**dataplane-operator**) to halt OpenStack services and perform OVN adoption, eliminating the need to SSH into Compute nodes. Additionally, MariaDB Galera database adoption now uses RHOCP pod helpers instead of local Podman on the operator's device.

1.8. OBSERVABILITY NEW AND ENHANCED FEATURES

Enhanced Openstack Observability

- Enhanced dashboards provide unified observability with visualizations that are natively integrated into the RHOCP Observability UI. These include the **node_exporter** agent that exposes metrics to the Prometheus monitoring system.
- In RHOSO 18.0, the **node_exporter** agent replaces the **collectd** daemon, and Prometheus replaces the Time series database (Gnocchi).

Logging

The OpenStack logging capability is significantly enhanced. You can now collect logs from control plane and Compute nodes, and use RHOCP Logging to store them in-cluster via Loki log store, or forward them off-cluster to an external log store. Logs that are stored in-cluster with Loki can be visualized in the RHOCP Observability UI console.

Service Telemetry Framework deprecation

The Observability product for previous versions of RHOSP is Service Telemetry Framework (STF). With the release of RHOSO 18.0, STF is Deprecated and in maintenance mode. There are no feature

enhancements for STF after STF 1.5.4, and STF status reaches end of life at the end of the RHOSP 17.1 lifecycle. Maintenance versions of STF will be released on new EUS versions of RHOCP until the end of the RHOSP 17.1 lifecycle.

1.9. DASHBOARD NEW AND ENHANCED FEATURES

Pinned CPUs

The OpenStack Dashboard service (horizon) now shows how many pinned CPUs (pCPUs) are used and available to use in your environment.

1.10. DOCUMENTATION NEW AND ENHANCED FEATURES

Library restructure

The documentation library has been restructured to align with the user lifecycle of RHOSO. Each guide incorporates content from one or more product areas that work together to cover end-to-end tasks.

RHOCP feature documentation

Features that are supported and managed natively in RHOCP are documented in the RHOCP documentation library. The RHOSO documentation includes links to relevant RHOCP documentation where needed.

Documentation scope

This beta release includes a basic documentation set for planning, deployment, and adoption. The following titles are published with RHOSO 18.0 Beta:

- **Release notes.** Information about major features, enhancements, bug fixes, and limitations in this release
- **Planning your deployment.** Getting started, hardware and software requirements, storage requirements, and RHOCP requirements for your deployment.
- **Partner integration.** Integration instructions for third-party storage drivers and container images.
- **Deploying Red Hat OpenStack Services on OpenShift** Preparing the RHOCP cluster for deployment, deploying the control plane and data plane, configuring observability and high availability, and accessing the cloud.
- **Configuring storage.** Integrating with external RHCS clusters, configuring OpenStack Block Storage, OpenStack Image Storage, OpenStack Object Storage, and shared file systems.
- **Adopting a Red Hat OpenStack Platform 17.1 deployment** Instructions for planning and performing an end-to-end adoption of RHOSP services.
The GA release will include the full documentation set for planning, deployment, adoption, customization, and operation of a RHOSO environment.

Earlier documentation versions

The RHOSO documentation page shows documentation for version 18.0 and later. For earlier supported versions of RHOSP, see [Product Documentation for Red Hat OpenStack Platform 17.1](#).

CHAPTER 2. FEATURES IN PROGRESS

This section outlines Red Hat OpenStack Services on OpenShift (RHOSO) features that are in progress but not available in this release.

- Minor updates
- FIPS adoption
- DNS as a service (designate)
- Load balancing as a service (octavia) service log offloading (see <https://issues.redhat.com/browse/OSPRH-7324>)
- Load balancing as a service on IPv6 (see <https://issues.redhat.com/browse/OSPRH-5912>)
- Snapshot and revert
- Configuring HA for instances
- Network functions virtualization (NFV)
- NIC partitioning

CHAPTER 3. RELEASE INFORMATION RHOSO 18.0 BETA

These release notes highlight selected updates in some or all of the RHOSO components. Consider these updates when you deploy this release of Red Hat OpenStack Services on OpenShift (RHOSO). Each of the notes in this section refers to the Jira issue used to track the update. If the Jira issue security level is public, you can click the link to see the Jira issue. If the security level is restricted, the Jira issue ID does not have a link to the Jira issue.

3.1. ADVISORY LIST

This release of Red Hat OpenStack Services on OpenShift (RHOSO) includes the following advisories:

[RHEA-2024:3646](#)

RHOSO 18.0 Beta container images, data plane 1.0 Beta

[RHEA-2024:3647](#)

RHOSO 18.0 Beta container images, control plane 1.0 Beta

[RHEA-2024:3648](#)

RHOSO 18.0 Beta service container images

[RHEA-2024:3649](#)

RHOSO 18.0 Beta packages

3.2. COMPUTE

3.2.1. New features

This part describes new features and major enhancements introduced in Red Hat OpenStack Services on OpenShift 18.0 Beta.

You can schedule archival and purge of deleted rows from Compute service (nova) cells

The nova-operator now schedules a periodic job for each Compute service (nova) cell to archive and purge the deleted rows from the cell database. The frequency of the job and the age of the database rows to archive and purge can be fine tuned in the `{{OpenStackControlPlane.spec.nova.template.cellTemplates[].dbPurge}}` structure for each cell in the cellTemplates.

[Jira:OSPRH-86](#)

3.2.2. Deprecated functionality

This part provides an overview of functionality that has been *deprecated* in Red Hat OpenStack Services on OpenShift 18.0 Beta.

Deprecated functionality will likely not be supported in future major releases of this product and is not recommended for new deployments.

i440fx PC machine type no longer tested or supported

In RHOSP 17, the i440fx PC machine type, pc-i440fx, was deprecated and Q35 became the default machine type for x86_64.

In RHOSP 18, the i440fx PC machine type is no longer tested or supported.

The i440fx PC machine type is still available for use under a support exception for legacy applications that cannot function with the Q35 machine type. If you have such a workload, contact Red Hat support to request a support exception.

With the removal of support for the i440fx PC machine type from RHOSP, you cannot use pc-i440fx to certify VNFs or third-party integrations. You must use the Q35 machine type.

Jira:OSPRH-7373

3.2.3. Known issues

This part describes known issues in Red Hat OpenStack Services on OpenShift 18.0 Beta.

No network block device (NBD) live migration with TLS enabled

In RHOSO 18.0 Beta, a bug prevents you from using network block device (NBD) to live migrate storage between Compute nodes with TLS enabled. See <https://issues.redhat.com/browse/OSPRH-6931>.

This issue only affects storage migration when TLS is enabled. You can live migrate storage with TLS not enabled.

[Jira:OSPRH-6740](#)

Cannot delete instance when `cpu_power_management` is set to `true`

When an instance is first started and the host core state is changed there is a short time period where it cannot be updated again. during this period instance deletion can fail. if this happens a second delete attempt should succeed after a short delay of a few seconds.

Jira:OSPRH-7103

Do not mix NUMA and non-NUMA instances on same Compute host

Instances without a NUMA topology should not coexist with NUMA instances on the same host.

[Jira:OSPRH-83](#)

Listing physical function (PF) ports using neutron might show the wrong MAC

Lists of PF ports might show the wrong MAC.

[Jira:OSPRH-7085](#)

3.3. NETWORKING

3.3.1. Known issues

This part describes known issues in Red Hat OpenStack Services on OpenShift 18.0 Beta.

OVN pod goes into loop due to NIC Mapping

When using a large number of NIC mappings, OVN might go into a creation loop.

Jira:OSPRH-7480

3.4. STORAGE

3.4.1. Known issues

This part describes known issues in Red Hat OpenStack Services on OpenShift 18.0 Beta.

Image uploads might fail if a multipathing path for Block Storage service (cinder) volumes is offline

If you use multipath for Block storage service volumes, and you have configured the Block Storage service as the back end for the Image service (glance), image uploads might fail if one of the paths goes offline.

[Jira:OSPRH-7393](#)

RGW does not pass certain Tempest object storage metadata tests

Red Hat OpenStack Services on OpenShift 18.0 supports Red Hat Ceph Storage 7. Red Hat Ceph Storage 7 RGW does not pass certain Tempest object storage metadata tests as tracked by the following Jiras:

<https://issues.redhat.com/browse/RHCEPH-6708><https://issues.redhat.com/browse/RHCEPH-9119><https://issues.redhat.com/browse/RHCEPH-9122><https://issues.redhat.com/browse/RHCEPH-4654>

[Jira:OSPRH-7464](#)

Missing Barbican configuration in the Image service (glance)

The Image service is not automatically configured to interact with Key Manager (barbican), and encrypted image signing and verification fails due to the missing configuration.

[Jira:OSPRH-7155](#)

3.5. RELEASE DELIVERY

3.5.1. Removed functionality

This part provides an overview of functionality that has been *removed* in Red Hat OpenStack Services on OpenShift 18.0 Beta.

Removed functionality is no longer supported in this product and is not recommended for new deployments.

Removal of `snmp` and `snmpd`

The `snmp` service and `snmpd` daemon are removed in RHOSO 18.0.

[Jira:OSPRH-2960](#)

3.6. INTEGRATION TEST SUITE

3.6.1. Known issues

This part describes known issues in Red Hat OpenStack Services on OpenShift 18.0 Beta.

Tempest test-operator does not work with LVMS storage class

When the test-operator is used to run Tempest, it requests a "ReadWriteMany" PersistentVolumeClaim (PVC) which the LVMS storage class does not support. This causes the tempest-test pod to become stuck in the **pending** state.

Workaround: Use the test-operator with a storage class supporting **ReadWriteMany** PVCs. The test-operator should work with a **ReadWriteOnce** PVC so the fixed version will no longer request a **ReadWriteMany** PVC.

[Jira:OSPRH-7062](#)

APPENDIX A. REVISION HISTORY

RHOSO 18.0 Beta

2024-06-07

- Beta version of the RHOSO release notes.

RHOSO 18.0 Beta

2024-06-10

- Fixed heading levels issue and clarified status of Load balancing as a service (octavia)

RHOSO 18.0 Beta

2024-06-20

- Removed power save feature from "Top new and enhanced features" section and added advisory list to "Release information" chapter.