Red Hat OpenStack Services on OpenShift 18.0

Release notes

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

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Legal Notice

Abstract

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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 and document known problems in this release, as well as notable bug fixes, technology previews, deprecated functionality, and other details.

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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 Red Hat OpenStack Services on OpenShift (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 OpenStack Operator and executed by Ansible. RHOSO data plane features include:

- The **OpenStackDataPlaneNodeSet** custom resource definition (CRD), which provides a highly parallel deployment model.

- Micro failure domains based on the **OpenStackDataPlaneNodeSet** 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 **OpenStackDataPlaneNodeSet** and **OpenStackDataPlaneService** CRDs.

1.3. NETWORKING NEW AND ENHANCED FEATURES

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 (Technology preview)

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 RHOCP 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.

TLS-everywhere enabled by default

After deployment, you can configure public services with your own certificates. You can deploy without TLS-everywhere and enable it later. You cannot disable TLS-everywhere after you enable it.

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. 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.

1.8. 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.

1.9. DOCUMENTATION NEW AND ENHANCED FEATURES

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. The titles are organized in categories for each stage in the user lifecycle of RHOSO.

1.9.1. Documentation categories

The following categories are published with RHOSO 18.0:

Plan

Information about the release, requirements, and how to get started before deployment. This category includes the following guides:

- Release notes

- Planning your deployment

- Integrating partner content

Prepare, deploy, configure, test

Procedures for deploying an initial RHOSO environment, customizing the control plane and data plane, configuring validated architectures, storage, and testing the deployed environment. This category includes the following guides:

- Deploying Red Hat OpenStack Services on OpenShift

- Customizing the Red Hat OpenStack Services on OpenShift deployment

- Deploying a Network Functions Virtualization environment

- Deploying a hyper-converged infrastructure environment

- Configuring persistent storage

- Validating and troubleshooting the deployed cloud

Adopt and update

Information about performing minor updates to the latest maintenance release of RHOSO, and procedures for adopting a Red Hat OpenStack Platform 17.1 cloud. This category includes the following guides:

- Updating your environment to the latest maintenance release

Customize and scale

Procedures for configuring and customizing specific components of the deployed environment. These procedures must be done before you start to operate the deployment. This category includes the following guides:

- Configuring the Compute service for instance creation

- Configuring data plane networking

- Configuring load balancing as a service

- Customizing persistent storage

- Configuring security services

- Auto-scaling for instances

- Configuring high availability

Manage resources and maintain the cloud

Procedures that you can perform during ongoing operation of the RHOSO environment. This category includes the following guides:

- Creating and managing instances

- Performing storage operations

- Performing security operations

- Managing cloud resources with the Dashboard

1.9.2. Documentation in progress

The following titles are being reviewed and will be published asynchronously:

- Adopting a Red Hat OpenStack Platform 17.1 deployment (Technology Preview)

- Managing networking resources

- Configuring the Bare Metal Provisioning service

- Configuring load balancing as a service (Technology Preview)

- Command line interface (CLI) reference

- Configuration reference

1.9.3. 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.

1.9.4. 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.

- RHOSO adoption

- DNS as a service (designate)

- Snapshot and revert

- Configuring high availability for instances

- DCN (Edge) BGP

CHAPTER 3. RELEASE INFORMATION RHOSO 18.0

These release notes highlight selected updates in some or all of the Red Hat Services on OpenShift (RHOSO) components. Consider these updates when you deploy this release of 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. RELEASE INFORMATION RHOSO 18.0 GA

3.1.1. Advisory list

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

RHEA-2024:5245
> Release of components for RHOSO 18.0

RHEA-2024:5246
> Release of containers for RHOSO 18.0

RHEA-2024:5247
> Data plane Operators for RHOSO 18.0

RHEA-2024:5248
> Control plane Operators for RHOSO 18.0

RHEA-2024:5249
> Release of components for RHOSO 18.0

3.1.2. Observability

3.1.2.1. New features

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

Deploy metric storage with Telemetry Operator

The Telemetry Operator now supports deploying and operating Prometheus by using the **cluster-observability-operator** through a MonitoringStack resource.

Jira:OSPRH-1896

Expanded interaction with metrics and alarms

You can now use the **openstack metric** and **openstack alarm** commands in the OpenStack CLI to interact with metrics and alarms. These commands are useful for troubleshooting.

Jira:OSPRH-2892

Ceilometer uses TCP publisher to expose data for Prometheus

Ceilometer can now use the TCP publisher to publish metric data to sg-core, which exposes them for scraping by Prometheus.

Jira:OSPRH-2957

Prometheus replaces Gnocchi for metrics storage and metrics-based autoscaling

In RHOSO 18.0, Prometheus replaces Gnocchi for metrics and metrics-based autoscaling.

Jira:OSPRH-3057

Compute node log collection

RHOSO uses the Cluster Logging Operator (**cluster-logging-operator**) to collect and centrally store logs from OpenStack Compute nodes.

Jira:OSPRH-802

Graphing dashboards for OpenStack metrics

The Red Hat OpenShift Container Platform (RHOCP) console UI now provides graphing dashboards for OpenStack Metrics.

Jira:OSPRH-824

3.1.3. Compute

3.1.3.1. New features

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

The compute service now supports native Secure RBAC

In osp 17.1 secure role-based access control was implemented using custom policy. In RHOSO-18.0.0 this is implemented using nova native support for SRBAC. As a result all OpenStack deployments support the ADMIN, MEMBER and READER roles by default.

Jira:OSPRH-1505

Setting the hostname of the Compute service (nova) instance by using the Compute service API microversions 2.90 and 2.94

This enhancement enables you to set the hostname of the Compute service (nova) instance by using the Compute service API microversions 2.90 and 2.94 that are now included in the 18.0 release of RHOSO.

API microversion 2.90 enables you to specify an optional hostname when creating, updating, or rebuilding an instance. This is a short name (without periods), and it appears in the metadata available to the guest OS, either through the metadata API or on the configuration drive. If installed and configured in the guest, **cloud-init** uses this optional hostname to set the guest hostname.

API microversion 2.94 extends microversion 2.90 by enabling you to specify fully qualified domain names (FQDN) wherever you specify the hostname. When using an FQDN as the instance hostname, you must set the **[api]dhcp_domain** configuration option to the empty string in order for the correct FQDN to appear in the hostname field in the metadata API.

Jira:OSPRH-17

Manage dedicated CPU power state

You can now configure the **nova-compute** service to manage dedicated CPU power state by setting [libvirt]cpu_power_management to True.

This feature requires the Compute service to be set with [compute]cpu_dedicated_set. With that setting, all dedicated CPUs are powered down until they are used by an instance. They are powered up when an instance using them is booted. If power management is configured but [compute]cpu_dedicated_set isn't set, then the compute service will not start.

By default, the power strategy offlines CPUs when powering down and onlines the CPUs on powering up, but another strategy is possible. Set [libvirt]cpu_power_management_strategy=governor to instead use governors, and use [libvirt]cpu_power_governor_low [libvirt]cpu_power_governor_high to direct which governors to use in online and offline mode (performance and powersave).

Jira:OSPRH-18

Evacuate to STOPPED with v2.95

Starting with the v2.95 micro version, any evacuated instance will be stopped at the destination. Operators can still continue using the previous behaviour by selecting a microversion below v2.95. Prior to v2.95, if the VM was active prior to the evacuation, it was restored to the active state following a failed evacuation. If the workload encountered I/O corruption as a result of the hypervisor outage, this could potentially make recovery effort harder or cause further issues if the workload was a clustered application that tolerated the failure of a single VM. For this reason, it is considered safer to always evacuate to Stopped and allow the tenant to decide how to recover the VM.

Jira:OSPRH-184

Compute service hostname change

If you start the Compute service (nova) and your Compute host detects a name change, you must know the reason for the change of the host names. When you resolve the issue, you must restart the Compute service.

Jira:OSPRH-20

Create a neutron port without an IP address if the port requires only L2 network connectivity

You can now create an instance with a **non-deferred** port that has no fixed IP address if the network back end has L2 connectivity.

In previous releases of RHOSP, all neutron ports were required to have a IP address. The IP address assignment could be immediate (default) or deferred for L3 routed networks. In RHOSO 18.0, that requirement has been removed. You can now create a neutron port without an IP address if the port requires only L2 network connectivity.

To use this feature, set **ip_allocation = 'none'** on the neutron port before passing it to nova to use when creating a VM instance or attaching the port to an existing instance.

Jira:OSPRH-57

New enlightenments to the libvirt XML for Windows guests in RHOSO 18.0.0

This update adds the following enlightenments to the libvirt XML for Windows guests:

- vpindex

- runtime

- synic

- reset

- frequencies

- tlbflush

- ipi

This adds to the list of existing enlightenments:

- relaxed

- vapic

- spinlocks retries

- vendor_id spoofing

Jira:OSPRH-58

New default for managing instances on NUMA nodes

In RHOSP 17.1.4, the default was to pack instances on NUMA nodes.

In RHOSO 18.0, the default has been changed to balance instances across NUMA nodes. To change the default, and pack instances on NUMA nodes, set

```
[compute]
packing_host_numa_cells_allocation_strategy = True
```

in both the scheduler and compute node nova.conf

Jira:OSPRH-59

Rebuild a volume-backed instance with a different image

This update adds the ability to rebuild a volume-backed instance from a different image.

Before this update, you could only rebuild a volume-backed instance from the original image in the boot volume.

Now you can rebuild the instance after you have reimaged the boot volume on the cinder side.

This feature requires API microversion 2.93 or later.

Jira:OSPRH-66

Archive 'task_log' database records

This enhancement adds the **--task-log** option to the **nova-manage db archive_deleted_rows** CLI. When you use the **--task-log** option, the **task_log** table records get archived while archiving the database. This option is the default in the nova-operator database purge cron job. Previously, there was no method to delete the **task_log** table without manual database modification.

You can use the **--task-log** option with the **--before** option for records that are older than a specified **<date>**. The **updated_at** field is compared to the specifed **<date>** to determine the age of a **task_log** record for archival.

If you configure **nova-compute** with **[DEFAULT]instance_usage_audit = True**, the **task_log** database table maintains an audit log of **--task-log** use.

Support for virtual IOMMU device

The Libvirt driver can add a virtual IOMMU device to guests. This capability applies to x86 hosts that use the Q35 machine type. To enable the capability, provide the **hw:viommu_model** extra spec or equivalent image metadata property **hw_viommu_model**.The following values are supported: **intel**, **smmuv3**, **virtio**, **auto**. The default value is **auto**, which automatically selects **virtio**.
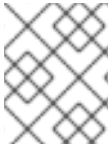
> **NOTE**
>
> Due to the possible overhead introduced with vIOMMU, enable this capability only for required workloads.

More options for the server unshelve command

With this update, new options are added to the **server unshelve** command in RHOSO 18.0.0.

The **--host** option allows adminstirators to specify a destination host. The **--no-availability-zone** option allows administrators to specify the availability zone. Both options require the server to be in the **SHELVED_OFFLOADED** state and the Compute API version to be **2.91** or greater.

Support for the bochs libvirt video model

This release adds the ability to use the **bochs** libvirt video model. The **bochs** libvirt video model is a legacy-free video model that is best suited for UEFI guests. In some cases, it can be usable for BIOS guests, such as when the guest does not depend on direct VGA hardware access.

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.

3.1.3.2. Bug fixes

This part describes bugs fixed in Red Hat OpenStack Services on OpenShift 18.0 that have a significant impact on users.

Migrating paused instance no longer generates error messages

Before this update, live migration of a paused instance with live_migration_permit_post_copy=True in nova.conf caused the libvirt driver to erroneously generate error messages similar to [1].

Now the error message is not generated when you live migrate a paused instance with live_migration_permit_post_copy=True.

[1] Error message example: "Live Migration failure: argument unsupported: post-copy migration is not supported with non-live or paused migration: libvirt.libvirtError: argument unsupported: post-copy migration is not supported with non-live or paused migration."

Jira:OSPRH-41

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 has now been resolved and live migration with TLS enabled is supported with local storage.

Jira:OSPRH-6740

Cannot delete instance when cpu_power_managment is set to true

in the rhos-18.0.0 beta release, a known issue was discovered preventing the deletion of an instance shortly after it was created if power management was enabled.

This has now been fixed in the rhoso-18.0.0 release

Jira:OSPRH-7103

3.1.3.3. Technology Previews

This part provides a list of all Technology Previews available in Red Hat OpenStack Services on OpenShift 18.0.

For information on the scope of support for Technology Preview features, see Example.

Technology preview of PCI device tracking in Placement service

RHOSO 18.0.0 introduces a technology preview of the ability to track PCI devices in the OpenStack Placement service.

Tracking PCI devices in the Placement service enables you to use granular quotas on PCI devices when combined with the Unified Limits Technology Preview.

PCI tracking in the Placement service is disabled by default and is limited to flavor-based PCI passthrough. Support for the Networking service (neutron) SRIOV ports is not implemented, but is required before this feature is fully supported.

Jira:OSPRH-19

Use of Identity service (Keystone) unified limits in the Compute service (nova)

This RHOSO release supports Identity service unified limits in the Compute service. Unified limits centralize management of resource quota limits in the Identity service (Keystone) and enable flexibility for users to manage quota limits for any Compute service resource being tracked in the Placement service.

Jira:OSPRH-70

3.1.3.4. Removed functionality

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

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

Keypair generation removed from RHOSO 18

Keypair generation was deprecated in RHOSP 17 and has been removed from RHOSO 18. Now you need to precreate the keypair by the SSH command line tool **ssh-keygen** and then pass the public key to the nova API.

Jira:OSPRH-67

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

Unsupported: vDPA and Hardware offload OVS are unsupported

Hardware offload OVS consists of processing network traffic in hardware with the kernel swtichdev and tcflower protocols.

vDPA extends Hardware offload OVS by providing a vendor-neutral virtio net interface to the guest, decoupling the workload from the specifics fo the host hardware instead of presenting a vendor-specific virtual function.

Both Hardware offload OVS and vDPA are unsupported in RHOSO 18.0 with no upgrade path available for existing users.

At this time there is no plan to reintroduce this functionality or continue to invest in new features related to vdpa or hardware offloaded ovs.

If you have a business requirement for these removed features, please reach out to Red Hat support or your partner and Technical Account Manager so that Red Hat can reassess the demand for these features for a future RHOSO release.

Jira:OSPRH-7829

3.1.3.5. Known issues

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

Setting **hw-architecture** or **architecture** on Image service (glance) image does not work as expected

In RHOSO 18.0, the image metadata prefilter is enabled by default. RHOSO does not support emulation of non-native architectures. As part of the introduction of emulation support upstream, the image metadata prefilter was enhanced to support the scheduling of instances based on the declared VM

architecture, for example **hw_architecture=x86_64**.

When nova was enhanced to support emulating non-native architecture via image properties, a bug was introduced, because the native architecture was not reported as a trait by the virt driver.

Therefore, by default, support for setting **hw_architecture** or **architecture** on an image was rendered inoperable.

To mitigate this bug, you have two choices:

- Unset the **architecture**/**hw_architecture** image property. RHOSO supports only one architecture, x86_64. There is no valid use case that requires this to be set for an RHOSO cloud, so all hosts will be x86_64.

- Disable the image metadata prefilter in the **CustomServiceConfig** section of the nova scheduler:

  ```
  [scheduler]
  image_metadata_prefilter=false
  ```

Jira:OSPRH-6215

QEMU process failure

A paused instance that uses local storage cannot be live migrated more than once. The second migration causes the QEMU process to crash and nova puts the instance to ERROR state.

Workaround: if feasible, unpause the instance temporarily then pause it again before the second live migration.

It is not always feasible to unpause an instance. For example, suppose the instance uses a multi-attach cinder volume, and pause is used to limit the access to that volume to a single instance while the other is kept in paused state. In this case, unpausing the instance is not a feasible workaround.

Jira:OSPRH-8699

Compute service power management feature disabled by default

The Compute service (nova) power management feature is disabled by default. You can enable it with the following nova-compute configuration.

```
[libvirt]
cpu_power_management = true
cpu_power_management_strategy = governor
```

The default cpu_power_management_strategy cpu_state is not supported at the moment due to a bug that causes NUMA resource tracking issues, as all disable CPUs are reported on NUMA node 0 instead of on the correct NUMA node.

Jira:OSPRH-8712

3.1.4. Data plane

3.1.4.1. Known issues

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

Using the **download-cache** service prevents Podman from pulling images for data plane deployment

Do not list the **download-cache** service in spec.services of the **OpenStackDataPlaneNodeSet**. If you list **download-cache** in **OpenStackDataPlaneNodeSet**, Podman can not pull the container images required by the data plane deployment.

Workaround: Omit the **download-cache** service from the default services list in **OpenStackDataPlaneNodeSet**.

Jira:OSPRH-9500

3.1.5. Hardware Provisioning

3.1.5.1. Bug fixes

This part describes bugs fixed in Red Hat OpenStack Services on OpenShift 18.0 that have a significant impact on users.

Increased EFI partition size

Before RHOSP 17.1.4, the EFI partition size of an overcloud node was 16MB. With this update, the image used for provisioned EDPM nodes now has an EFI partition size of 200MB to align with RHEL and to accommodate firmware upgrades.

Jira:OSPRH-6691

3.1.6. Networking

3.1.6.1. New features

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

Octavia Operator availability zones

The Octavia Management network created and managed by the Octavia operator requires that the OpenStack routers and networks are scheduled on the OVN controller on the OpenShift worker nodes.

If the OpenStack Networking Service (neutron) is configured with non-default availability zones, the OVN controller pod on the OpenShift worker and Octavia must be configured with the same availability zone.

Example:

```
ovn:
  template:
    ovnController:
      external-ids:
        availability-zones:
          - zone1
octavia:
  template:
    lbMgmtNetwork:
      availabilityZones:
        zone1
```

-

[Jira:OSPRH-6901](#)

3.1.6.2. Bug fixes

This part describes bugs fixed in Red Hat OpenStack Services on OpenShift 18.0 that have a significant impact on users.

OVN pod no longer goes into loop due to NIC Mapping

When using a large number of NIC mappings, OVN could go into a creation loop. This is now fixed

Jira:OSPRH-7480

3.1.6.3. Technology Previews

This part provides a list of all Technology Previews available in Red Hat OpenStack Services on OpenShift 18.0.

For information on the scope of support for Technology Preview features, see [Example](#).

Load-balancing service (Octavia) support of multiple VIP addresses

This update adds a technology preview of support for multiple VIP addresses allocated from the same Neutron network for the Load-balancing service.

You can now specify additional subnet_id/ip_address pairs for the same VIP port. This makes it possible to configure the Load-balancing service with both IPv4 and IPv6 exposed to both public and private subnets.

[Jira:OSPRH-2154](#)

3.1.6.4. Known issues

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

Delayed OVN database update after `oc patch` command

Any custom configuration settings applied with 'oc patch ...' command do not affect neutron ovn databases until 10 minutes have passed.

Workaround: After you replace old pods using the **oc patch ...** command, delete the new neutron pod(s) manually using **oc delete pod ...** command.

The pod deletion forces a new configuration to be set without the delay issue.

[Jira:OSPRH-7998](#)

MAC_Binding aging functionality missing in RHOSO 18.0.0

The MAC_Binding aging functionality that was added in OSP 17.1.2 is missing from 18.0 GA. A fix is in progress.

[Jira:OSPRH-8716](#)

10-minute delay between 'oc patch`command and update of OVN databases

Custom configuration settings applied with the 'oc patch' command do not affect the Networking service (neutron) OVN databases until 10 minutes have passed.

Workaround: After the old Networking service pods are replaced new pods after an 'oc patch' command operation, delete the new Networking service pods manually using the 'oc delete pod' command.

This deletion forces a new configuration to be set without the delay issue.

Jira:OSPRH-9035

Metadata rate-limiting feature

Metadata rate-limiting is not available in RHOSO 18.0.0. A fix is in progress.

Jira:OSPRH-9569

3.1.7. Network Functions Virtualization

3.1.7.1. New features

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

AMD CPU powersave profiles

A power save profile, cpu-partitioning-powersave, was introduced in Red Hat Enterprise Linux 9 (RHEL 9), and made available in Red Hat OpenStack Platform (RHOSP) 17.1.3.

This TuneD profile is the base building block for saving power in NFV environments. RHOSO 18.0 adds cpu-partitioning-powersave support for AMD CPUs.

Jira:OSPRH-2268

3.1.7.2. Bug fixes

This part describes bugs fixed in Red Hat OpenStack Services on OpenShift 18.0 that have a significant impact on users.

Physical function (PF) MAC address now matches between VM instances and SR-IOV physical functions (PFs)

This update fixes a bug that caused a PF MAC address mismatch between VM instances and SR-IOV PFs (Networking service ports with **vnic-type** set to **direct-physical**).

In the RHOSO 18.0 Beta release, a bug in the Compute service (nova) prevented the MAC address of SR-IOV PFs from being updated correctly when attached to a VM instance.

Now the MAC address of the PF is set on the corresponding neutron port.

Jira:OSPRH-7085

3.1.7.3. Technology Previews

This part provides a list of all Technology Previews available in Red Hat OpenStack Services on OpenShift 18.0.

For information on the scope of support for Technology Preview features, see Example.

In RHOSO 18.0, a technology preview is available for the nmstate provider back-end in **os-net-config.**

This technology preview of nmstate and NIC hardware offload has known issues that make it unsuitable for production use. For production, use the **openstack-network-scripts** package rather than nmstate and NetworkManager.

There is a production-ready native nmstate mode you can select during installation, but network configuration, which must be provided in nmstate format, is not backwards-compatible with templates from TripleO. It also lacks certain features that os-net-config provides, such as NIC name mapping or DSCP configuration.

Jira:OSPRH-2273

Data Center Bridge (DCB)-based QoS settings support

Specific to port/interface, DCB-based QoS settings are now supported as part of the **os-net-config** tool's network configuration template. For more information, see this knowledge base article: https://access.redhat.com/articles/7062865

Jira:OSPRH-2889

3.1.7.4. Deprecated functionality

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

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

TimeMaster service is deprecated in RHOSO 18.0

In RHOSO 18.0, support for the TimeMaster service is deprecated. Bug fixes and support are provided through the end of the RHOSO 18.0 lifecycle, but no new feature enhancements will be made.

Jira:OSPRH-8244

3.1.7.5. Known issues

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

Do not use virtual functions (VF) for the RHOSO control plane interface

This RHOSO release does not support use of VFs for the RHOSO control plane interface.

Jira:OSPRH-8882

Bonds require minimum of two interfaces

If you configure an OVS or DPDK bond, always configure at least two interfaces. Bonds with only a single interface do not function as expected.

Jira:OSPRH-9307

3.1.8. High availability

3.1.8.1. New features

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

Password rotation

This update introduces the ability to generate and rotate OpenStack database passwords.

Jira:OSPRH-92

3.1.9. Storage

3.1.9.1. New features

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

Shared File Systems support for scaleable CephFS-NFS

The Shared File Systems service (manila) now supports a scaleable CephFS-NFS service. In earlier releases of Red Hat OpenStack Platform, only active/passive high-availability that was orchestrated with Director, using Pacemaker/Corosync, was supported. With this release, deployers can create active/active clusters of CephFS-NFS and integrate these clusters with the Shared File Systems service for improved scalability and high availability for NFS workloads.

Jira:OSPRH-1024

Block Storage service (cinder) volume deletion

With this release, the Block Storage service RBD driver takes advantage of recent Ceph developments to allow RBD volumes to meet normal volume deletion expectations.

In previous releases, when the Block Storage service used an RBD (Ceph) volume back end, it was not always possible to delete a volume.

Jira:OSPRH-1777

project_id in API URLs now optional

You are no longer required to include **project_id** in Block Storage service (cinder) API URLs.

Jira:OSPRH-1787

Dell PowerStore storage systems driver

A new share driver has been added to support Dell PowerStore storage systems with the Shared File Systems service (Manila) service.

Jira:OSPRH-4425

Dell PowerFlex storage systems driver

A new share driver has been added to support Dell PowerFlex storage systems with the Shared File Systems service (Manila) service.

Jira:OSPRH-4426

openstack-must-gather SOS report support

You can now collect diagnostic information about your RHOSO deployment using the openstack-must-gather.

You can retrieve SOS reports for both the RHOCP control plane and RHOSO data plane nodes using a single command, and options are available to dump specific information related to a particular deployed service.

Jira:OSPRH-866

3.1.9.2. Bug fixes

This part describes bugs fixed in Red Hat OpenStack Services on OpenShift 18.0 that have a significant impact on users.

Key Manager service configuration fix enables Image service image signing and verification

With this fix, the Image service (glance) is automatically configured to interact with the Key Manager service (barbican), and you can now perform encrypted image signing and verification.

Jira:OSPRH-7155

Fixed faulty share creation in the NetApp ONTAP driver when using SVM scoped accounts

Due to a faulty kerberos enablement check upon shares creation, the NetApp ONTAP driver failed to create shares when configured with SVM scoped accounts. A fix has been committed to openstack-manila and shares creation should work smoothly.

Jira:OSPRH-8044

3.1.9.3. Technology Previews

This part provides a list of all Technology Previews available in Red Hat OpenStack Services on OpenShift 18.0.

For information on the scope of support for Technology Preview features, see Example.

Deployment and scale of Object Storage service

This feature allows for the deployment and scale of Object Storage service (swift) data on data plane nodes. This release of the feature is a technology preview.

Jira:OSPRH-1307

3.1.9.4. Known issues

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

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

Jira:OSPRH-7464

Image import remains in **importing** state after conversion with ISO image format

When you use image conversion with the ISO image format, the image import operation remains in an "importing" state.

> *Workaround:* If your deployment supports uploading images in ISO format, you can use the `image-create` command to upload ISO images as shown in the following example (instead of using image conversion with the `image-create-via-import` command).

Example:

> glance image-create \
> --name <iso_image> \
> --disk-format iso \
> --container-format bare \
> --file <my_file.iso>

- Replace **<iso_image>** with the name of your image.

- Replace **<my_file.iso>** with the file name for your image.

Jira:OSPRH-8580

3.1.10. Dashboard

3.1.10.1. New features

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

Hypervisor status now includes vCPU and pCPU information

Before this update, pCPU usage was excluded from the hypervisor status in the Dashboard service (horizon) even if the **cpu_dedicated_set** configuration option was set in the **nova.conf** file. This enhancement uses the Placement API to display information about vCPUs and pCPUs. You can view vCPU and pCPU usage diagrams under the **Resource Providers Summary** and find more information on vCPUs and pCPUs on the new **Resource provider** tab at the Hypervisors panel.

Jira:OSPRH-1516

With this update, you can now customize the OpenStack Dashboard (horizon) container.

The customization can be performed by using the extra mounts feature to add or change files inside of the Dashboard container.

Jira:OSPRH-5644

TLS everywhere in RHOSO Dashboard Operator

With this update, the RHOSO Dashboard (horizon) Operator automatically configures TLS-related configuration settings.

These settings include certificates and response headers when appropriate, including the secure cookies and HSTS headers for serving over HTTPS.

Jira:OSPRH-5882

3.1.10.2. Bug fixes

This part describes bugs fixed in Red Hat OpenStack Services on OpenShift 18.0 that have a significant impact on users.

Host spoofing protective measure

Before this update, the hosts configuration option was not populated with the minimum hosts necessary to protect against host spoofing.

With this update, the hosts configuration option is now correctly populated.

Jira:OSPRH-5832

Dashboard service operators now include HSTS header

Before this update, HSTS was only enabled in Django through the Dashboard service (horizon) application. However, user HTTPS sessions were going through the OpenShift route, where HSTS was disabled. With this update, HSTS is enabled on the OpenShift route.

Jira:OSPRH-7367

3.2. RELEASE INFORMATION RHOSO 18.0 BETA

3.2.1. 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

3.2.2. Compute

3.2.2.1. New features

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

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

3.2.2.2. Deprecated functionality

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

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

3.2.2.3. Known issues

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

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

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

Cannot delete instance when `cpu_power_managment` 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

3.2.3. Networking

3.2.3.1. Known issues

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

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

3.2.4. Network Functions Virtualization

3.2.4.1. Known issues

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

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

Lists of PF ports might show the wrong MAC.

Jira:OSPRH-7085

3.2.5. Storage

3.2.5.1. Known issues

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

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

3.2.6. Release delivery

3.2.6.1. Removed functionality

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

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

3.2.7. Integration test suite

3.2.7.1. Known issues

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

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 GA

2024-07-24

- GA version of the RHOSO release notes.

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.

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

2024-06-07

- Beta version of the RHOSO release notes.