



Red Hat Virtualization 4.4

Release Notes

Release notes for Red Hat Virtualization 4.4

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Abstract

This document describes improvements and additions that have been implemented in Red Hat Virtualization.

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CHAPTER 1. INTRODUCTION

The Release Notes provide a high-level description of improvements and additions that have been implemented in Red Hat Virtualization 4.4.

Red Hat Virtualization is an enterprise-grade server and desktop virtualization platform built on Red Hat Enterprise Linux. See the [Product Guide](#) for more information.

CHAPTER 2. SUBSCRIPTIONS

To install the Red Hat Virtualization Manager and hosts, your systems must be registered with the Content Delivery Network using Red Hat Subscription Management. This section outlines the subscriptions and repositories required to set up a Red Hat Virtualization environment.

2.1. REQUIRED SUBSCRIPTIONS AND REPOSITORIES

The packages provided in the following repositories are required to install and configure a functioning Red Hat Virtualization environment. When one of these repositories is required to install a package, the steps required to enable the repository are provided in the appropriate location in the documentation.

Table 2.1. Red Hat Virtualization Manager

Subscription Pool	Repository Name	Repository Label	Details
Red Hat Enterprise Linux Server	Red Hat Enterprise Linux Server	rhel-8-for-x86_64-baseos-rpms	Provides the Red Hat Enterprise Linux 8 Server.
Red Hat Enterprise Linux Server	Red Hat Enterprise Linux Server	rhel-8-for-x86_64-appstream-rpms	Provides the Red Hat Enterprise Linux 8 Server.
Red Hat Virtualization	Red Hat Virtualization	rhv-4.4-manager-for-rhel-8-x86_64-rpms	Provides the Red Hat Virtualization Manager.
Red Hat Virtualization	Red Hat JBoss Enterprise Application Platform	jb-eap-7.4-for-rhel-8-x86_64-rpms	Provides the supported release of Red Hat JBoss Enterprise Application Platform on which the Manager runs.
Red Hat Virtualization	Red Hat Fast Datapath for RHEL 8 (RPMs)	fast-datapath-for-rhel-8-x86_64-rpms	Provides Open vSwitch (OVS) packages.

Table 2.2. Red Hat Virtualization Host

Subscription Pool	Repository Name	Repository Label	Details
Red Hat Virtualization	Red Hat Virtualization Host	rhvh-4-for-rhel-8-x86_64-rpms	Provides the redhat-virtualization-host-image-update package, which allows you to update the image installed on the host.

Table 2.3. Red Hat Enterprise Linux 8 Hosts

Subscription Pool	Repository Name	Repository Label	Details
Red Hat Enterprise Linux Server	Red Hat Enterprise Linux Server	rhel-8-for-x86_64-baseos-rpms	Provides the Red Hat Enterprise Linux 8 Server.
Red Hat Enterprise Linux Server	Red Hat Enterprise Linux Server	rhel-8-for-x86_64-appstream-rpms	Provides the Red Hat Enterprise Linux 8 Server.
Red Hat Virtualization	Red Hat Virtualization Management Agents (RPMs)	rhv-4-mgmt-agent-for-rhel-8-x86_64-rpms	Provides the QEMU and KVM packages required for using Red Hat Enterprise Linux 8 servers as virtualization hosts.
Red Hat Advanced Virtualization	Red Hat Advanced Virtualization	advanced-virt-for-rhel-8-x86_64-rpms	Provides packages for advanced virtualization.
Red Hat Virtualization	Red Hat Fast Datapath for RHEL 8 (RPMs)	fast-datapath-for-rhel-8-x86_64-rpms	Provides Open vSwitch (OVS) packages.

2.2. OPTIONAL SUBSCRIPTIONS AND REPOSITORIES

The packages provided in the following repositories are not required to install and configure a functioning Red Hat Virtualization environment. However, they are required to install packages that provide supporting functionality on virtual machines and client systems such as virtual machine resource monitoring. When one of these repositories is required to install a package, the steps required to enable the repository are provided in the appropriate location in the documentation.

Table 2.4. Optional Subscriptions and Repositories

Subscription Pool	Repository Name	Repository Label	Details
Red Hat Enterprise Linux Server	Red Hat Enterprise Linux 7 Server - RH Common (v.7 Server for x86_64)	rhel-7-server-rh-common-rpms	Provides the ovirt-guest-agent-common package for Red Hat Enterprise Linux 7, which enables monitoring virtual machine resources on Red Hat Enterprise Linux 7 clients.

Subscription Pool	Repository Name	Repository Label	Details
Red Hat Enterprise Linux Server	Red Hat Enterprise Virt Agent (v.6 Server for x86_64)	rhel-6-server-rhv-4-agent-rpms	Provides the ovirt-guest-agent-common package for Red Hat Enterprise Linux 6, which enables monitoring virtual machine resources on Red Hat Enterprise Linux 6 clients.
Red Hat Enterprise Linux Server	Red Hat Enterprise Virt Agent (v.5 Server for x86_64)	rhel-5-server-rhv-4-agent-rpms	Provides the rhev-guest-agent package for Red Hat Enterprise Linux 5, which enables monitoring virtual machine resources on Red Hat Enterprise Linux 5 clients.
Cinderlib for x86_64	Cinderlib option	openstack-16-cinderlib-for-rhel-8-x86_64-rpms	Provides cinderlib libraries for Cinderlib support in Red Hat Virtualization.
Cinderlib for IBM POWER LE	Cinderlib option for Power LE	openstack-16-cinderlib-for-rhel-8-ppc64le-rpms	Provides cinderlib libraries for Cinderlib support in Red Hat Virtualization.

CHAPTER 3. MANAGING CERTIFICATES

Red Hat Virtualization Manager uses certificates to enable encrypted communications. These RHV certificates follow a standard 398 day lifetime and **must** be renewed once per year.



WARNING

Do not let certificates expire. If they expire, the environment becomes non-responsive and recovery is an error-prone and time-consuming process.

Starting in RHV 4.4, you will receive warning notifications 120 days before expiration and error notifications 30 days before expiration. Do not ignore these notifications. For information on renewing certificates, see [Renewing certificates before they expire](#) in the *Administration Guide*.

CHAPTER 4. RHV FOR IBM POWER

This release supports Red Hat Enterprise Linux 8 hosts on IBM POWER8 little endian hardware and Red Hat Enterprise Linux 7 and 8 virtual machines on emulated IBM POWER8 hardware. From Red Hat Virtualization 4.2.6 Red Hat Enterprise Linux hosts are supported on IBM POWER9 little endian hardware and Red Hat Enterprise Linux 8 virtual machines on emulated IBM POWER9 hardware.



IMPORTANT

Previous releases of RHV for IBM Power required Red Hat Enterprise Linux hosts on POWER8 hardware to be installed from an ISO image. These hosts cannot be updated for use with this release. You must reinstall Red Hat Enterprise Linux 8 hosts using the repositories outlined below.

The packages provided in the following repositories are required to install and configure aspects of a Red Hat Virtualization environment on POWER8 hardware.

Table 4.1. Required Subscriptions and Repositories for IBM POWER8, little endian hardware

Component	Subscription Pool	Repository Name	Repository Label	Details
Red Hat Virtualization Manager	Red Hat Virtualization for IBM Power	Red Hat Virtualization for IBM Power	rhv-4-mgmt-agent-for-rhel-8-ppc64le-rpms	Provides the Red Hat Virtualization Manager for use with IBM POWER8 hosts. The Manager itself must be installed on x86_64 architecture.
Red Hat Enterprise Linux 8 hosts, little endian	Red Hat Enterprise Linux for Power, little endian	RHV Management Agent for IBM Power, little endian	rhv-4-mgmt-agent-for-rhel-8-ppc64le-rpms	Provides the QEMU and KVM packages required for using Red Hat Enterprise Linux 8 servers on IBM Power (little endian) hardware as virtualization hosts. Provides additional packages required for using Red Hat Enterprise Linux 8 servers on IBM Power (little endian) hardware as virtualization hosts.

Component	Subscription Pool	Repository Name	Repository Label	Details
Red Hat Enterprise Linux 8 virtual machines, big endian	Red Hat Enterprise Linux for Power, big endian	RHV Tools for IBM Power	rhv-4-tools-for-rhel-8-ppc64le-rpms	Provides the ovirt-guest-agent-common package for Red Hat Enterprise Linux 8 virtual machines on emulated IBM Power (big endian) hardware. The guest agents allow you to monitor virtual machine resources on Red Hat Enterprise Linux 8 clients.
Red Hat Enterprise Linux 8 virtual machines, little endian	Red Hat Enterprise Linux for Power, little endian	RHV Tools for IBM Power, little endian	rhv-4-tools-for-rhel-8-ppc64le-rpms	Provides the ovirt-guest-agent-common package for Red Hat Enterprise Linux 8 virtual machines on emulated IBM Power (little endian) hardware. The guest agents allow you to monitor virtual machine resources on Red Hat Enterprise Linux 8 clients.

Table 4.2. Required Subscriptions and Repositories for IBM POWER9, little endian hardware

Component	Subscription Pool	Repository Name	Repository Label	Details
Red Hat Virtualization Manager	Red Hat Virtualization for IBM Power	Red Hat Virtualization for IBM Power	rhv-4-mgmt-agent-for-rhel-8-ppc64le-rpms	Provides the Red Hat Virtualization Manager for use with IBM POWER9 hosts. The Manager itself must be installed on x86_64 architecture.

Component	Subscription Pool	Repository Name	Repository Label	Details
Red Hat Enterprise Linux 8 hosts, little endian	Red Hat Enterprise Linux for Power, little endian	RHV Management Agent for IBM Power, little endian	rhv-4-mgmt-agent-for-rhel-8-ppc64le-rpms	Provides the QEMU and KVM packages required for using Red Hat Enterprise Linux 8 servers on IBM Power (little endian) hardware as virtualization hosts.
Red Hat Enterprise Linux 8 hosts, little endian	Red Hat Enterprise Linux for Power, little endian	Red Hat Enterprise Linux for IBM Power, little endian	rhel-8-for-ppc64le-baseos-rpms rhel-8-for-ppc64le-appstream-rpms	Provides additional packages required for using Red Hat Enterprise Linux 8 servers on IBM Power (little endian) hardware as virtualization hosts.
Red Hat Enterprise Linux 8 virtual machines, big endian	Red Hat Enterprise Linux for Power, big endian	RHV Tools for IBM Power	rhv-4-tools-for-rhel-8-ppc64le-rpms	Provides the ovirt-guest-agent-common package for Red Hat Enterprise Linux 8 virtual machines on emulated IBM Power (big endian) hardware. The guest agents allow you to monitor virtual machine resources on Red Hat Enterprise Linux 8 clients.

Component	Subscription Pool	Repository Name	Repository Label	Details
Red Hat Enterprise Linux 8 virtual machines, little endian	Red Hat Enterprise Linux for Power, little endian	RHV Tools for IBM Power, little endian	rhv-4-tools-for-rhel-8-ppc64le-rpms	Provides the ovirt-guest-agent-common package for Red Hat Enterprise Linux 8 virtual machines on emulated IBM Power (little endian) hardware. The guest agents allow you to monitor virtual machine resources on Red Hat Enterprise Linux 8 clients.

**NOTE**

If the virtual machine fails to boot on IBM POWER9, it might be because of the risk level setting on your firmware. To resolve this issue, see the Troubleshooting scenarios in [Starting a virtual machine](#).

Unsupported Features for IBM POWER

The following Red Hat Virtualization features are not supported:

- SPICE display
- SmartCard
- Sound device
- Guest SSO
- Integration with OpenStack Networking (Neutron), OpenStack Image (Glance), and OpenStack Volume (Cinder)
- Self-hosted engine
- Red Hat Virtualization Host (RHHV)
- Disk Block Alignment

For a full list of bugs that affect the RHV for IBM Power release, see Red Hat Private BZ#1444027.

CHAPTER 5. TECHNOLOGY PREVIEW, DEPRECATED, AND REMOVED FEATURES

5.1. TECHNOLOGY PREVIEW FEATURES



IMPORTANT

Technology Preview features are not supported with Red Hat production service-level agreements (SLAs) and might not be functionally complete, and Red Hat does not recommend using them for production. These features provide early access to upcoming product features, enabling customers to test functionality and provide feedback during the development process. For more information see [Red Hat Technology Preview Features Support Scope](#).

The following table describes features available as Technology Previews in Red Hat Virtualization.

Table 5.1. Technology Preview Features

Technology Preview Feature	Details
IPv6	Static IPv6 assignment is fully supported in Red Hat Virtualization 4.3 and 4.4, but Dynamic IPv6 assignment is available as a Technology Preview.  NOTE All hosts in the cluster must use IPv4 or IPv6 for RHV networks, not simultaneous IPv4 and IPv6, because dual stack is not supported. For details about IPv6 support, see IPv6 Networking Support in the Administration Guide.
NoVNC console option	Option for opening a virtual machine console in the browser using HTML5.
Websocket proxy	Allows users to connect to virtual machines through a noVNC console.
VDSM hook for nested virtualization	Allows a virtual machine to serve as a host. For details, see Enabling nested virtualization for all virtual machines in the Administration Guide.

Technology Preview Feature	Details
Import Debian and Ubuntu virtual machines from VMware and RHEL 5 Xen	Allows virt-v2v to convert Debian and Ubuntu virtual machines from VMware or RHEL 5 Xen to KVM. Known Issues: ● virt-v2v cannot change the default kernel in the GRUB2 configuration. The kernel configured on the guest operating system is not changed during the conversion, even if a more optimal version is available. ● After converting a Debian or Ubuntu virtual machine from VMware to KVM, the name of the virtual machine's network interface may change, and will need to be configured manually
NVDIMM host devices	Support for attaching an emulated NVDIMM to virtual machines that are backed by NVDIMM on the host machine. For details, see NVDIMM Host Devices .
Open vSwitch (OVS) cluster type support	Adds Open vSwitch networking capabilities.
Shared and local storage in the same data center	Allows the creation of single-brick Gluster volumes to enable local storage to be used as a storage domain in shared data centers.
Cinderlib integration	Leverages CinderLib library to use Cinder-supported storage drivers in Red Hat Virtualization without a Full Cinder-OpenStack deployment. Adds support for Ceph storage along with Fibre Channel and iSCSI storage. The Cinder volume has multipath support on the Red Hat Virtualization Host.
SSO with OpenID Connect	Adds support for external OpenID Connect authentication using Keycloak in both the user interface and with the REST API.
oVirt Engine Backup	Adds support to back up and restore Red Hat Virtualization Manager with the Ansible ovirt-engine-backup role.
Failover vNIC profile	Allows users to migrate a virtual machine connected via SR-IOV with minimal downtime by using a failover network that is activated during migration.

Technology Preview Feature	Details
Dedicated CPU pinning policy	Guest vCPUs will be exclusively pinned to a set of host pCPUs (similar to static CPU pinning). The set of pCPUs will be chosen to match the required guest CPU topology. If the host has an SMT architecture, thread siblings are preferred.

5.2. DEPRECATED FEATURES

This chapter provides an overview of features that have been deprecated in all minor releases of Red Hat Virtualization.

Deprecated features continue to be supported for a minimum of two minor release cycles before being fully removed. For the most recent list of deprecated features within a particular release, refer to the latest version of release documentation.



NOTE

Although support for deprecated features is typically removed after a few release cycles, some tasks may still require use of a deprecated feature. These exceptions are noted in the description of the deprecated feature.

The following table describes deprecated features to be removed in a future version of Red Hat Virtualization.

Table 5.2. Deprecated Features

Deprecated Feature	Details
OpenStack Glance	Support for OpenStack Glance is now deprecated. This functionality will be removed in a future release.
Remote engine database	A remote engine database is now deprecated, whether implemented during deployment or by migrating after deployment. This functionality will be removed from the deployment script in a future release.
Cisco Virtual Machine Fabric Extender (VM-FEX)	Support for the Cisco Virtual Machine Fabric Extender (VM-FEX) is now deprecated. This functionality will be removed in a future release.
Export Domains	Use a data domain. Migrate data domains between data centers and Importing Virtual Machines from a Data Domain into the new data center. In Red Hat Virtualization 4.4, some tasks may still require the export domain.

Deprecated Feature	Details
ISO domains	Use a data domain. Upload images to data domains . In Red Hat Virtualization 4.4, some tasks may still require the ISO domain.
ovirt-guest-agent	The ovirt-guest-agent project is no longer supported. Use qemu-guest-agent version 2.12.0 or later.
moVirt	Mobile Android app for Red Hat Virtualization.
OpenStack Networking (Neutron)	Support for Red Hat OpenStack Networking (Neutron) as an external network provider is now deprecated, and was removed in Red Hat Virtualization 4.4.5.
OpenStack block storage (Cinder)	Support for Red Hat OpenStack block storage (Cinder) is now deprecated, and will be removed in a future release.
instance types	Support for instance types that can be used to define the hardware configuration of a virtual machine is now deprecated. This functionality will be removed in a future release.
websocket proxy deployment on a remote host	Support for third party websocket proxy deployment is now deprecated, and will be removed in a future release.
SSO for virtual machines	Since the ovirt-guest-agent package was deprecated, Single Sign-On (SSO) is deprecated for virtual machines running Red Hat Enterprise Linux version 7 or earlier. SSO is not supported for virtual machines running Red Hat Enterprise Linux 8 or later, or for Windows operating systems.
GlusterFS Storage	GlusterFS Storage is deprecated, and will no longer be supported in future releases.
ovirt-engine extension-aaa-ldap and ovirt-engine extension-aaa-jdbc	The engine extensions ovirt-engine extension-aaa-ldap and ovirt-engine extension-aaa-jdbc have been deprecated. For new installations, use Red Hat Single Sign On for authentication. For more information, see Installing and Configuring Red Hat Single Sign-On in the Administration Guide.

5.3. REMOVED FEATURES

The following table describes features that have been removed in this version of Red Hat Virtualization.

Table 5.3. Removed Features

Removed Feature	Details
Metrics Store	Metrics Store support has been removed in Red Hat Virtualization 4.4. Administrators can use the Data Warehouse with Grafana dashboards (deployed by default with Red Hat Virtualization 4.4) to view metrics and inventory reports. See Grafana.com for information on Grafana. Administrators can also send metrics and logs to a standalone Elasticsearch instance. See Deprecation of RHV Metrics Store and Alternative Solutions
Version 3 REST API	Version 3 of the REST API is no longer supported. Use the version 4 REST API .
Version 3 SDKs	Version 3 of the SDKs for Java, Python, and Ruby are no longer supported. Use the version 4 SDK for Java , Python , or Ruby .
RHEVM Shell	Red Hat Virtualization's specialized command line interface is no longer supported. Use the version 4 SDK for Java , Python , or Ruby , or the version 4 REST API .
Iptables	Use the firewalld service.  NOTE iptables is only supported on Red Hat Enterprise Linux 7 hosts, in clusters with compatibility version 4.2 or 4.3. You can only add Red Hat Enterprise Linux 8 hosts to clusters with firewall type firewalld.
Conroe, Penryn, Opteron G1, Opteron G2, and Opteron G3 CPU types	Use newer CPU types .
IBRS CPU types	Use newer fixes .
3.6, 4.0 and 4.1 cluster compatibility versions	Use a newer cluster compatibility version. Upgrade the compatibility version of existing clusters.

Removed Feature	Details
cockpit-machines-ovirt	The cockpit-machines-ovirt package is not included in Red Hat Enterprise Linux 8 and is not supported in Red Hat Virtualization Host 4.4. Use the Administration Portal.
ovirt-guest-tools	ovirt-guest-tools has been replaced with a new WiX-based installer, included in Virtio-Win. You can download the ISO file containing the Windows guest drivers, agents, and installers from latest virtio-win downloads
OpenStack Neutron deployment	The Red Hat Virtualization 4.4.0 release removes OpenStack Neutron deployment, including the automatic deployment of the Neutron agents through the Network Provider tab in the New Host window and the AgentConfiguration in the REST-API. Use the following components instead: - To deploy OpenStack hosts, use the OpenStack Platform Director/TripleO. - The Open vSwitch interface mappings are already managed automatically by VDSM in clusters with switch type OVS. - To manage the deployment of ovirt-provider-ovn-driver on a cluster, update the cluster's "Default Network Provider" attribute.
screen	With this update to RHEL 8-based hosts, the screen package is removed. The current release installs the tmux package on RHEL 8-based hosts instead of screen .
Application Provisioning Tool service (APT)	With this release, the virtio-win installer replaces the APT service.
ovirt-engine-api-explorer	The ovirt-engine-api-explorer package has been deprecated and removed in Red Hat Virtualization Manager 4.4.3. Customers should use the official REST API Guide instead, which provides the same information as ovirt-engine-api-explorer. See REST API Guide .
DPDK (Data Plane Development Kit)	Experimental support for DPDK has been removed in Red Hat Virtualization 4.4.4.

Removed Feature	Details
VDSM hooks	Starting with Red Hat Virtualization 4.4.7, VDSM hooks are not installed by default. You can manually install VDSM hooks as needed.
Foreman integration	Provisioning hosts using Foreman, which is initiated from Red Hat Virtualization Manager, is removed in Red Hat Virtualization 4.4.7. Removing this neither affects the ability to manage Red Hat Virtualization virtual machines from Satellite nor the ability for Red Hat Virtualization to work with errata from Satellite for hosts and virtual machines.
Cockpit installation for Self-hosted engine	Using Cockpit to install the self-hosted engine is no longer supported. Use the command line installation.
oVirt Scheduler Proxy	The ovirt-scheduler-proxy package is removed in Red Hat Virtualization 4.4 SP1.
Ruby software development kit (SDK)	The Ruby SDK is no longer supported.
systemtap	The systemtap package is no longer supported on RHVH 4.4.
Red Hat Virtualization Manager (RHVM) appliance	With this release, the Red Hat Virtualization Manager (RHVM) appliance is being retired. Following this release, you can update the RHVM by running the <code>dnf update</code> command followed by <code>engine-setup</code> after connecting to the Content Delivery Network.
DISA STIG for Red Hat Virtualization Host (RHHV)	The DISA STIG security profile is no longer supported for RHVH. Use the RHEL host with a DISA STIG profile instead.

5.4. DATA CENTER AND CLUSTER COMPATIBILITY LEVELS

Red Hat Virtualization data centers and clusters have a compatibility version.

The data center compatibility version indicates the version of Red Hat Virtualization that the data center is intended to be compatible with. All clusters in the data center must support the desired compatibility level.

The cluster compatibility version indicates the features of Red Hat Virtualization supported by all of the hosts in the cluster. The cluster compatibility is set according to the version of the least capable host operating system in the cluster.

The table below provides a compatibility matrix of RHV versions and the required data center and cluster compatibility levels.

Table 5.4. Data center and cluster levels supported with Red Hat Virtualization

Compatibility Level	RHV Version	Description
4.7	4.4	Compatibility Level 4.7 was introduced in RHV 4.4 to support new features introduced by RHEL 8.6 hypervisors.
4.6	4.4.6	Compatibility Level 4.6 was introduced in RHV 4.4.6 to support new features introduced by RHEL 8.4 hypervisors with Advanced Virtualization 8.4 packages.
4.5	4.4.3	Compatibility Level 4.5 was introduced in RHV 4.4.3 to support new features introduced by RHEL 8.3 hypervisors with Advanced Virtualization 8.3 packages.

Limitations

- Virtio NICs are enumerated as a different device after upgrading the cluster compatibility level to 4.6. Therefore, the NICs might need to be reconfigured. Red Hat recommends that you test the virtual machines before you upgrade the cluster by setting the cluster compatibility level to 4.6 on the virtual machine and verifying the network connection.
If the network connection for the virtual machine fails, configure the virtual machine with a custom emulated machine that matches the current emulated machine, for example `pc-q35-rhel8.3.0` for 4.5 compatibility version, before upgrading the cluster.

CHAPTER 6. 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 Virtualization.

Notes for updates released during the support lifecycle of this Red Hat Virtualization release will appear in the advisory text associated with each update or in the *Red Hat Virtualization Technical Notes*. This document is available on the [Red Hat documentation page](#).

6.1. RED HAT VIRTUALIZATION 4.4 SP 1 BATCH UPDATE 1 (OVIRT-4.5.1)

6.1.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1930643

A `wait_after_lease` option has been added to the `ovirt_vm` Ansible module to provide a delay so that the VM lease creation is completed before the next action starts.

BZ#1958032

Previously, live storage migration could fail if the destination volume filled up before it was extended. In the current release, the initial size of the destination volume is larger and the extension is no longer required.

BZ#1994144

The email address for notifications is updated correctly on the "Manage Events" screen.

BZ#2001574

Previously, when closing the "Move/Copy disk" dialog in the Administration Portal, some of the acquired resources were not released, causing browser slowness and high memory usage in environments with many disks. In this release, the memory leak has been fixed.

BZ#2001923

Previously, when a failed VM snapshot was removed from the Manager database while the volume remained on the storage, subsequent operations failed because there was a discrepancy between the storage and the database. Now, the VM snapshot is retained if the volume is not removed from the storage.

BZ#2006625

Previously, memory allocated by hugepages was included in the host memory usage calculation, resulting in high memory usage in the Administration Portal, even with no running VMs, and false `VDS_HIGH_MEM_USE` warnings in the logs. In this release, hugepages are not included in the memory usage. `VDS_HIGH_MEM_USE` warnings are logged only when normal (not hugepages) memory usage is above a defined threshold. Memory usage in the Administration Portal is calculated from the normal and hugepages used memory, not from allocated memory.

BZ#2030293

A VM no longer remains in a permanent locked state if the Manager is rebooted while exporting the VM as OVA.

BZ#2048545

LVM command error messages have been improved so that it is easier to trace and debug errors.

BZ#2055905

The default migration timeout period has been increased to enable VMs with many direct LUN disks, which require more preparation time on the destination host, to be migrated.

The `migration_listener_prepare_disk_timeout` and `max_migration_listener_timeout` VDSM options have been added so that the default migration timeout period can be extended if necessary.

BZ#2068270

Previously, when downloading snapshots, the `disk_id` was not set, which caused resumption of the transfer operation to fail because locking requires the `disk_id` to be set. In this release, the `disk_id` is always set so that the transfer operation recovers after restart.

BZ#2070045

The host no longer enters a non-responsive state if the OVF store update operation times out because of network errors.

BZ#2072626

The `ovirt-engine-notifier` correctly increments the SNMP EngineBoots value after restarts, which enables the `ovirt-engine-notifier` to work with the SNMPv3 `authPriv` security level.

BZ#2077008

The QEMU guest agent now reports the correct guest CPU count.

BZ#2081241

Previously, VMs with one or more VFIO devices, Q35 chipset, and maximum number of vCPUs ≥ 256 might fail to start because of a memory allocation error reported by the QEMU guest agent. This error has been fixed.

BZ#2081359

Infiniband interfaces are now reported by VDSM.

BZ#2081493

The size of preallocated volumes is unchanged after a cold merge.

BZ#2090331

The `ovirt_vm` Ansible module displays an error message if a non-existent snapshot is used to clone a VM.

BZ#2099650

A bug that caused the upgrade process to fail if the `vdc_options` table contained records with a NULL default value has been fixed.

BZ#2105296

Virtual machines with VNC created by earlier Manager versions sometimes failed to migrate to newer hosts because the VNC password was too long. This issue has been fixed.

6.1.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1663217

The hostname and/or FQDN of the VM or VDSM host can change after a virtual machine (VM) is created. Previously, this change could prevent the VM from fetching errata from Red Hat Satellite/Foreman. With this enhancement, errata can be fetched even if the VM hostname or FQDN changes.

BZ#1782077

An "isolated threads" CPU pinning policy has been added. This policy pins a physical core exclusively to a virtual CPU, enabling a complete physical core to be used as the virtual core of a single virtual machine.

BZ#1881280

The hosted-engine `--deploy --restore-from-file` prompts now include guidance to clarify the options and to ensure correct input.

BZ#1937408

The following key-value pairs have been added to the KVM dictionary in the `ovirt_template` module for importing a template from OVA:

- URL, for example, `qemu:///system`
- `storage_domain` for converted disks
- host from which the template is imported
- clone to regenerate imported template's identifiers

BZ#1976607

VGA has replaced QXL as the default video device for virtual machines. You can switch from QXL to VGA using the API by removing the graphic and video devices from the VM (creating a headless VM) and then adding a VNC graphic device.

BZ#1996098

The `copy_paste_enabled` and `file_transfer_enabled` options have been added to the `ovirt_vm` Ansible module.

BZ#1999167

Spice console remote-viewer now allows the Change CD command to work with data domains if no ISO domains exist. If there are multiple data domains, remote-viewer selects the first data domain on the list of available domains.

BZ#2081559

The `rhv-log-collector-analyzer` discrepancy tool now detects preallocated QCOW2 images that have been reduced.

BZ#2092885

The Welcome page of the Administration Portal now displays both the upstream and downstream version names.

6.1.3. Rebase: Bug Fixes Only

These items are rebases of bug fixes included in this release of Red Hat Virtualization:

BZ#2093795

Rebase package(s) to version: 4.4.6 This fixes an issue which prevented the collection of PostgreSQL data and the documentation of the `--log-size` option.

6.1.4. Known Issues

These known issues exist in Red Hat Virtualization at this time:

BZ#1703153

There is a workaround for creating a RHV Manager hostname that is longer than 95 characters.

1. Create a short FQDN, up to 63 characters, for the engine-setup tool.
2. Create a custom certificate and put the short FQDN and a long FQDN (final hostname) into the certificate's **Subject Alternate Name** field.

3. Configure the Manager to use the custom certificate.
4. Create an `/etc/ovirt-engine/engine.conf.d/99-alternate-engine-fqdns.conf` file with the following content: `SSO_ALTERNATE_ENGINE_FQDNS="long FQDN"`
5. Restart the **ovirt-engine** service.

If you cannot access the Manager and are using a very long FQDN: 1. Check for the following error message in `/var/log/httpd/error_log`: **ajp_msg_check_header() incoming message is too big NNNN, max is MMMM** 2. Add the following line to `/etc/httpd/conf.d/z-ovirt-engine-proxy.conf`: `ProxyIOBufferSize PPPP` where **PPPP** is greater than **NNNN** in the error message. Restart Apache.

6.2. RED HAT VIRTUALIZATION 4.4 SP1 GENERAL AVAILABILITY (OVIRT-4.5.0)

6.2.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1648985

A user with user role permissions cannot take control of a VM from a superuser, close the superuser's console connection, and assign the VM to a user with user role permissions.

BZ#1687845

Notifications for hosts rely on the server time, instead of comparing the job's "end time" to the local browser time, to resolve the issue of multiple "Finish activating host" notifications.

BZ#1768969

During a self-hosted engine deployment, the TPGT value (target portal group tag) is used for the iSCSI login to resolve the issue of duplicate iSCSI sessions being created.

BZ#1810032

The default value of a vNIC network filter is documented in the REST API documentation.

BZ#1834542

The **engine-setup** process uses the **yum** proxy configuration to check for packages and RPMs.

BZ#1932149

The **hosted-engine --deploy** command checks the compatibility level of the cluster or data center and creates a storage domain in the appropriate format.

BZ#1944290

If a user tries to log in to the VM Portal or the Administration Portal with an expired password, a link directs the user to the "Change password" page.

BZ#1959186, BZ#1991240

When a user provisions VMs from templates in the VM Portal, the Manager selects a quota that the user has access to, so that the user is not restricted to the quota specified by the template.

BZ#1971622

The warning icons on the Virtual Machines tab of the host's details view are displayed correctly.

BZ#1971863

The **engine-setup** process ignores DNS queries with the deprecated type **ANY**.

BZ#1974741

Previously, a bug in the finalization mechanism left the disk locked in the database. In this release, the finalization mechanism works correctly and the disk remains unlocked in all scenarios.

BZ#1979441

Previously, a warning appeared if the CPU of a high performance VM was different from the cluster CPU. In this release, the warning is not displayed when CPU passthrough is configured.

BZ#1986726

When a VM is imported as an OVA, the selected allocation policy is followed.

BZ#1988496

The **vmconsole-proxy-helper** certificate is renewed with the Manager certificate during the **engine-setup** process.

BZ#2000031

A non-responsive SPM host reboots once instead of multiple times.

BZ#2003996

Previously, a regular snapshot could not be deleted if a "next run" snapshot existed because the "next run" snapshot **type** was missing. In this release, the issue is resolved by not reporting "next run" snapshots to clients.

BZ#2006745

Previously, when a template disk was copied to/from a Managed Block Storage domain, its storage domain ID was incorrect, the same image was saved repeatedly in the images and base disks database tables, and its **ManagedBlockStorageDisk** disk type was cast to **DiskImage**. In this release, copying a template disk to/from a Managed Block Storage domain works as expected.

BZ#2007384

The data type of the disk **writeRate** and **readRate** parameter values has been changed from **integer** to **long** to support higher values.

BZ#2010067

When a preallocated disk is downloaded, its image is saved as sparse instead of fully allocated.

BZ#2010203

The Log Collection Analysis tool handles line breaks correctly, resolving the issue of incorrect formatting in the "Virtual Machine(s) with unmanaged devices" table of the HTML report.

BZ#2010478

A VM behaves correctly, according to its resume policy, if the storage state changes during VM migration.

BZ#2011309

Previously, a self-hosted engine deployment failed when an OpenSCAP security profile was applied, resulting in the SSH key permissions being changed to **0640**, which is insecure. In this release, the permissions remain **0600** and the deployment succeeds.

BZ#2013928

Special characters in the Log Collection Analysis tool database are escaped, resolving the issue of incorrect formatting in the "vdc_options" table of the HTML report.

BZ#2016173

The LVM filter created by the **vdsd-tool** filters correctly for a multipath device instead of including SCSI devices.

BZ#2024202

Translation strings in the Administration Portal dialogs are correctly displayed in all languages.

BZ#2028481

SCSI reservation works for hot-plugged disks.

BZ#2040361

When multiple disks with VirtIO-SCSI interfaces are hot-plugged to a virtual machine configured for multiple IO threads, each disk is assigned a unique PCI address, resolving the issue of duplicate PCI addresses.

BZ#2040402

Commands that use the obsolete "log_days" option of the Log Collector tool have been removed.

BZ#2041544

When you select a host to upload, the host list no longer jumps back to the first host if you select a different host.

BZ#2048546

The Log Collector tool has been modified to use the **sos report** command in order to avoid warning messages caused by the **sosreport** command, which will be deprecated in the future.

BZ#2050108

The **ovirt-ha-broker** service runs successfully on a host with a DISA STIG profile.

BZ#2052557

When stateless VMs or VMs that were started in run-once mode are shut down, vGPU devices are properly released.

BZ#2064380

The VNC console password has been changed from 12 to 8 characters, in compliance with libvirt 8 requirements.

BZ#2066811

Self-hosted engine deployment succeeds on a host with a DISA STIG profile, which does not allow non-root users to run Ansible playbooks, when the postgres user is replaced by **engine_postgresql.sh**.

BZ#2075852

The correct version of the **nodejs** package is installed.

6.2.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#977379

You can edit and manage iSCSI storage domain connections in the Administration Portal. For example, you can edit a logical domain to point to a different physical storage, which is useful if the underlying LUNs are replicated for backup purposes or if the physical storage address has changed.

BZ#1616158

The self-hosted engine installation checks that the IP address of the Manager is in the same subnet as the host running the self-hosted engine agent.

BZ#1624015

You can set a console type globally for all VMs with **engine-config**.

BZ#1667517

A logged-in user can set the default console type, full screen mode, smart card enablement, **Ctrl+Alt+Del** key mapping, and the SSH key in the VM Portal.

BZ#1745141

The SnowRidge Accelerator Interface Architecture (AIA) can be enabled by modifying the **extra_cpu_flags** custom property of a virtual machine (**movdiri**, **movdir64b**).

BZ#1781241

The ability to connect automatically to a VM in the VM Portal has been restored as a configurable option.

BZ#1849169

The **VCPU_TO_PHYSICAL_CPU_RATIO** parameter has been added to the **Evenly Distributed** scheduling policy to prevent over-utilization of physical CPUs on a host. The value of the parameter reflects the ratio between virtual and physical CPUs.

BZ#1878930

You can configure a threshold for the minimum number of available MAC addresses in a pool with **engine-config**.

BZ#1922977

Shared disks are included in the 'OVF_STORE' configuration, which enables VMs to share disks after a storage domain is moved to a new data center and the VMs are imported.

BZ#1925878

A link to the Administration Portal has been added to all Grafana dashboards.

BZ#1926625

You can enable HTTP Strict Transport Security after installing the Manager by following the instructions in [How to enable HTTP Strict Transport Security \(HSTS\) on Apache HTTPD](#) .

BZ#1944834

You can set a delay interval for shutting down your VM console session in the Administration Portal to avoid accidental disconnection.

BZ#1964208

You can create and download a VM screenshot in the Administration Portal.

BZ#1975720

You can create parallel migration connections. See [Parallel migration connections](#) for details.

BZ#1979797

A warning message is displayed if you try to remove a storage domain that contains a volume leased by a VM in a different storage domain.

BZ#1987121

You can specify vGPU driver parameters as a string, for example, **enable_uvm=1**, for all the vGPUs of a VM by using the vGPU editing dialog. The vGPU editing dialog has been moved from **Host devices** to **VM devices**.

BZ#1990462

RSyslog can authenticate to Elasticsearch with a user name and password.

BZ#1991482

A link to the Monitoring Portal has been added to the Administration Portal dashboard.

BZ#1995455

You can use any number of CPU sockets, up to the number of maximum vCPUs, on cluster versions 4.6 and earlier, if the guest OS is compatible.

BZ#1998255

You can search and filter vNIC profiles by attributes.

BZ#1998866

Windows 11 is supported as a guest operating system.

BZ#1999698

The Apache HTTPD SSLProtocol configuration is managed by crypto-policies instead of being set by **engine-setup**.

BZ#2012830

You can now use the Logical Volume Management (LVM) devices file for managing storage devices instead of LVM filter, which can be complicated to set up and difficult to manage. Starting with RHEL 8.6, this will be the default for storage device management.

BZ#2002283

You can set the number of PCI Express ports for VMs with **engine-config**.

BZ#2020620

You can deploy a self-hosted engine on a host with a DISA STIG profile.

BZ#2021217

Windows 2022 is supported as a guest operating system.

BZ#2021545

DataCenter/Cluster compatibility level 4.7 is available for hosts with RHEL 8.6 or later.

BZ#2023786

If a VM is set with the custom property **sap_agent=true**, hosts that do not have the **vdsm-hook-vhostmd** package installed are filtered out by the scheduler when the VM is started.

BZ#2029830

You can select either the DISA STIG or the PCI-DSS security profile for the self-hosted engine VM during installation.

BZ#2030596

The Manager can run on a host with a PCI-DSS security profile.

BZ#2033185

Cluster level 4.7 supports the e1000e VM NIC type. Because the e1000 driver is deprecated by RHEL 8.0, users should switch to e1000e if possible.

BZ#2037121

The RHV Image Discrepancy tool displays data center and storage domain names in its output.

BZ#2040474

The Administration Portal provides better error messages and status and progress indicators during cluster upgrade.

BZ#2049782

You can set user-specific preferences in the Administration Portal.

BZ#2054756

A link to the Migration Toolkit for Virtualization documentation has been added to the login screen of the Administration Portal.

BZ#2058177

The **nvme-cli** package, used by RHEL 8 to manage storage devices, has been added to RHVH.

BZ#2066042

ansible-core package, required by **cockpit-ovirt** has been added to RHVH.

BZ#2070963

The **rng-tools**, **rsyslog-gnutls**, and **usbguard** packages have been added to **rhvm-appliance** to comply with DISA-STIG profile requirements.

BZ#2070980

The OVA package manifest has been added to the **rhvm-appliance** RPM.

BZ#[2072881](#)

You can restore a backup of an earlier RHV 4 version to a datacenter/cluster with the current version.

6.2.3. Release Notes

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

BZ#[1782056](#)

IPSec for Open Virtual Network is available for hosts with **ovirt-provider-ovn**, **ovn-2021** or later, and **openvswitch2.15** or later.

BZ#[1940824](#)

You can upgrade OVN and OVS 2.11 to OVN 2021 and OVS 2.15.

BZ#[2004852](#)

You can enable VirtIO-SCSI and multiple queues, depending on the number of available vCPUs, when creating a VM with an Ansible playbook.

BZ#[2015796](#)

The current release can be deployed on a host with the RHEL 8.6 DISA STIG OpenSCAP profile.

BZ#[2023250](#)

The host installation and upgrade flows have been updated to enable the **virt:rhel** module during a new installation of the RHEL 8.6 host or upgrade from RHEL 8.5 or earlier.

BZ#[2030226](#)

RHVH can be deployed on a machine with the PCI-DSS security profile.

BZ#[2052686](#)

The current release requires **ansible-core** 2.12.0 or later.

BZ#[2055136](#)

The **virt** DNF module version is set to the RHEL version of the host during the upgrade procedure.

BZ#[2056126](#)

When an internal certificate is due to expire, the Manager creates a warning event 120 days in advance and an alert event 30 days in advance in the audit log. Custom certificates for HTTPS access to the Manager are not checked.

6.2.4. Deprecated Functionality

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

BZ#[2016359](#)

The GlusterFS storage type is deprecated because Red Hat Gluster Storage reaches end of life in 2024.

6.2.5. Removed Functionality

BZ#[2052963](#)

The **systemtap** package has been removed from RHVH.

BZ#[2056937](#)

The RHV appliance is no longer supported. You can update the Manager by running **dnf update** and **engine-setup**.

BZ#2077545

The **ovirt-iso-uploader** package has been removed from RHV.

6.3. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 9 (OVIRT-4.4.10)

6.3.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1898049

Previously, the default disk configuration did not propagate disk errors to the client, which caused the virtual machine to stop. As a result, the Windows high availability cluster validator failed and one of the virtual machines in the cluster was paused. In this release, disk errors are propagated to the client using the "engine-config -s PropagateDiskErrors=true" setting. The Windows high availability cluster validator works and all tests, including iSCSI reservations, have passed.

BZ#1978655

Previously, ELK integration failed due to missing configuration parameters when using certificates. In this release, the missing parameters were added, and updated to the correct names according to the logging role. ELK integration now works with or without certificates.

BZ#2014882

Previously, the VM memory/CPU overcommit panels in the Ovirt Executive Dashboard/Cluster Dashboard displayed the average memory for a single hypervisor and the average memory of all virtual machines in a cluster. In this release, the dashboard panels show the correct overcommit rates between all the hosts in the cluster and all the virtual machines in the cluster.

BZ#2022660

Previously, when unassigning a storage connection from a storage domain for a LUN associated with another storage server connection, all storage connections for that LUN were removed and the LUN was also removed. In this release, only the specified storage connection is removed. The LUN is removed only if it has no storage connections.

BZ#2025872

Previously, certain CPU topologies caused virtual machines with PCI host devices to fail. In this release, the issue has been fixed.

BZ#2026625

Previously, the timeout setting on the broker socket in the 'ovirt-hosted-engine-ha' library was ignored because the timeout was set after the connection was opened. This caused the VDSM threads to be blocked if the broker did not respond. Now the timeout setting is established before the connection is opened, resolving this issue.

BZ#2032919

Previously, RHEL 7 hosts could not be added to the Red Hat Virtualization Manager in clusters with level 4.3 or 4.2. In this release, RHEL 7 hosts can be added to the Red Hat Virtualization Manager successfully in clusters with level 4.3 or 4.2. For additional details, see BZ#2019807.

6.3.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1897114

In this release, monitoring of host refresh capabilities functionality was improved to help debug very rare production issues that sometimes caused the Red Hat Virtualization Manager to lose connectivity with the Red Hat Virtualization hosts.

BZ#2012135

Previously, multiple stale LUNs had to be removed individually, after removing a storage domain, by calling the 'ovirt_remove_stale_lun' Ansible role multiple times. In the current release, multiple LUN WWIDs for stale links can be included in the 'ovirt_remove_stale_lun' role, which only needs to be called once.

BZ#2023224

Previously, when running the 'ovirt_remove_stale_lun' Ansible role, the removal of the multipath device map could fail because of a conflict with a VGS scan. In the current release, the 'ovirt_remove_stale_lun' role for removing multipath is retried six times to allow the removal to succeed.

6.3.3. Release Notes

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

BZ#2007286

Previously, a non-responding host was first soft-fenced by the Engine, but this did not fix the connectivity issue. The engine did not initiate a hard fence and the host was left in a non-responding state. In this release, soft fencing has been fixed so that if the soft fencing does not make the host responsive again, then the non-responding host treatment process continues correctly with the additional steps.

6.3.4. Deprecated Functionality

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

BZ#2017068

The 'manageiq' Ansible role has been deprecated in 'ovirt-ansible-collection-1.6.6' and will be removed in 'ovirt-ansible-collection-2.0.0'

BZ#2056934

The Red Hat Virtualization Manager (RHVM) appliance is being retired. The last supported build of the RHVM appliance will be shipped with the release of Red Hat Virtualization 4.4 SP1. Following the Red Hat Virtualization 4.4 SP1 release, you can update the RHVM by running the `dnf update` command followed by `engine-setup` after connecting to the Content Delivery Network.

6.3.5. Removed Functionality

BZ#2045913

The log manager extension `ovirt-engine-extension-logger-log4j` has been removed in this release. It has been replaced by the JBoss EAP `SyslogHandler` log manager.

6.4. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 8 (OVIRT-4.4.9)

6.4.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1940991

Previously, when hot unplugging memory in rapid succession using REST API, the same DIMMs could be hot unplugged multiple times instead of using different DIMMs for different hot unplug actions. This resulted in failed hot unplugs and could lead to invalid assumptions about the amount of RAM in the virtual machine. In this release, this issue is fixed, and DIMMs that are hot unplugged are no longer used in followup hot unplugs.

BZ#1947709

Previously, upgrading from Red Hat Virtualization 4.3 failed when using an isolated network during IPv6 deployment. In this release, a forward network is used instead of an isolated network during an IPv6 deployment. As a result, upgrade from Red Hat Virtualization 4.3 using IPv6 now succeeds.

BZ#1977276

Previously, in some cases, adding a new disk for the upload succeeded, but the system handled the operation as a failure. AS a result, the upload failed silently without uploading any data and ending in an empty new disk. In this release, the add disk success is detected correctly, and uploading completes successfully.

BZ#1978672

Previously, virtual machines failed to restore when running hibernation on block based storage. In the current release, the data is written as raw data allowing the virtual machine restore to succeed.

BZ#1979730

Previously, when upgrading a cluster from cluster level 4.5 to 4.6, the emulated machine changed to a newer one. This caused problems on some Windows virtual machines, such as - loss of static IP configuration or secondary disks going offline. In this release, the Webadmin shows a confirmation dialog during the cluster upgrade from cluster level 4.5 or lower to cluster level 4.6 or higher if there are any virtual machines that could be affected.

BZ#1980230

In Red Hat Enterprise Linux 8.5, the socat package has been updated introducing a change in the command line syntax. In the current release, the hosted-engine command has been updated to adapt to this change.

BZ#1989324

Previously, the UploadStreamCommand updated the OVF_STORE Actual disk size in the database incorrectly during an OVF update. As a result, rhv-image-discrepancies received the wrong disk size. In this release, OVF and Self-Hosted Engine metadata are skipped by rhv-image-discrepancies, and the tool does not produce irrelevant warnings.

BZ#2000364

Previously, on Manager startup, system threads may have been used to retrieve the virtual machine configuration from stateless snapshots, causing the Manager to fail to start. In this release, the way of retrieving the virtual machine configuration from stateless snapshots on the Manager was changed to avoid using the system thread and only use application threads. AS a result, the Manager can start when stateless snapshots with cloud-init network properties are defined.

BZ#2000720

Previously, VDSM reported partial results to the engine which resulted in a failure to import the storage domain using new LUNs. This happened because VDSM would not wait for the creation of new multipath devices after the discovery of new LUNs. The current release fixes this issue and VDSM waits for multipathd reports to be ready and the storage domain is now detected.

BZ#2014017

Previously, the status of the operation (download VM disks) was changed to one of the final statuses (FINISHED_SUCCESS / FINISHED_FAILURE) before the disk locks were actually released. As a

result, in some scenarios, the operation following this one failed with a Disk is locked error. In this release, the locks are released immediately before changing the command status to one of the final phases. AS a result, the operation that follows this one and uses the same disk will succeed.

6.4.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1352501

In this release, using virtual TPM, it is now possible to inject a LUKS encryption key to the guest operating system.

BZ#1845909

In the current release, the `sanlock_io` timeout is configurable. Before configuring `sanlock_io` timeout, it is recommended that you contact Red Hat support. Please refer to <https://access.redhat.com/solutions/6338821>. Red Hat is not responsible for testing different timeout values other than the defaults. Red Hat support will only provide guidance on how to change those values consistently across the RHV setup.

BZ#1949046

SPICE has been deprecated, and will be removed from the RHEL 9 subscription channel. This release provides SPICE packages for RHEL 9 clients so that Red Hat Virtualization can support SPICE with RHEL 9 clients and guests.

BZ#1957830

In this release, the VM Portal now allows creating preallocated or thin provisioned disk images on various types of storage domains.

BZ#1983021

Red Hat Virtualization Host now includes the packages needed for using Managed Block Devices via cinderlib.

BZ#1984886

Previously, manual installation of the `rsyslog-openssl` package was required to setup remote encrypted logging. In the current release, the `rsyslog-openssl` package is installed by default on both the oVirt Node and RHV-H.

BZ#1992690

Previously, the Inventory dashboard showed CPU overcommit rates for each data center. In this release, CPU overcommit rates are available in the Inventory dashboard for each cluster as well.

BZ#2001551

In this release, `rhv-image-discrepancies` now allows more granular checks. Two new options have been added to `rhv-image-discrepancies` command line to restrict the run to specific data centers or storage domains. If both are specified it is restricted to the intersection of both. `-p --pool-uuid`: limit run to data centers, can be specified multiple times `-s --storage-uuid`: limit run to storage domains, can be specified multiple times For example: `# rhv-image-discrepancies -p=5bbe9966-ea58-475f-863f -s=977ba581-23e5-460a-b1de`

BZ#2007550

In this release, the data type for the virtual machines disk write/read rate was changed from integer to long.

BZ#2009659

Previously, users were required to manually install Cinderlib and Ceph dependencies, such as, `python3-cinderlib` or `python3-ox-brick` on each host. In the current release, these dependencies are automatically installed and provided within RHV-H. Please note that for standard RHEL hosts, this feature requires the proper subscription to be enabled.

6.4.3. Rebase: Bug Fixes and Enhancements

These items are rebases of bug fixes and enhancements included in this release of Red Hat Virtualization:

BZ#1975175

Red Hat Virtualization Host now includes packages from RHGS-3.5.z on RHEL-8 Batch #5.

BZ#1998104

Red Hat Virtualization Host now includes openvswitch related packages from Fast Data Path 21.G release.

BZ#2002945

The ovirt-hosted-engine-ha package has been rebased to version: 2.4.9. This update fixes the issue of incorrect CPU load scores causing the engine virtual machine to shut down.

6.4.4. Release Notes

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

BZ#1904085

A playbook executed by Ansible Engine 2.9.25 inside a virtual machine running on Red Hat Virtualization 4.4.9 correctly detects that this is a virtual machine running on Red Hat Virtualization by using Ansible facts.

BZ#1939262

Previously, an issue with lldpad required a workaround on RHEL 7. The RHEL 8.5 release provides an update of lldpad to version 1.0.1-16 which resolves the issue.

BZ#1963748

Red Hat Virtualization 4.4.9 now requires EAP 7.4.2 which also requires a repository change. Before upgrading to RHV 4.4.9 with EAP 7.4.2 or later, make sure that EAP is upgraded to 7.3.9 or later when upgrading from RHV 4.4.8 or earlier.

BZ#2003671

Red Hat Virtualization now supports Ansible-2.9.27 for internal usage.

BZ#2004444

During host installation or host upgrade, the Manager checks if cinderlib and Ceph packages are available. If not, it tries to enable the required channels specified in the documentation. If there is a problem during channel enablement, an error is raised in the audit_log, and customers need to enable the channel manually and retry the installation or upgrade.

BZ#2004469

Previously it was not possible to upgrade RHVH to version 4.4.8 when custom VDSM hooks were installed on RHVH. This was caused by the VDSM hooks dependency on the concrete version of VDSM. The current release allows users to maintain the VDSM dependency manually. In other words, if you want to upgrade from VDSM X.Y.Z to version A.B.C, you must upgrade all VDSM hooks to the same A.B.C version.

BZ#2004913

The Red Hat OpenStack Platform (RHOSP) cinderlib repository has been upgraded from RHOSP 16.1 to 16.2.

6.5. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 7 (OVIRT-4.4.8)

**NOTE**

BZ#[1947709](#) was included in the advisory ([RHBA-2021:3464](#)) in error and remains a known issue. The fix is scheduled for a future release.

6.5.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#[1770027](#)

Previously, connection with the postgresql would fail during restart or any other issue. The virtual machine monitoring thread would fail with an unrecoverable error and would not run again until the ovirt-engine was restarted. The current release fixes this issue allowing the monitoring thread to recover once errors are resolved.

BZ#[1948177](#)

An update in libvirt has changed the way block threshold events are submitted. As a result, the VDSM was confused by the libvirt event, and tried to look up a drive, logging a warning about a missing drive. In this release, the VDSM has been adapted to handle the new libvirt behavior, and does not log warnings about missing drives.

BZ#[1950767](#)

Previously, sending rapid multiple requests to update affinity groups simultaneously would cause conflicts resulting in a failure. The conflict would occur because the affinity group was being removed and recreated during the update process. The current release fixes this issue by allowing each update on an affinity group to be initiated with a specific operation. Therefore, the affinity group is no longer removed and recreated during the update.

BZ#[1959436](#)

Previously, when a virtual machine was powered off on the source host of a live migration and the migration finished successfully at the same time, the two events interfered with each other, and sometimes prevented migration cleanup resulting in additional migrations from the host being blocked. In this release, additional migrations are not blocked.

BZ#[1982296](#)

Previously, it was possible to set the maximum number of vCPUs too high for virtual machine with the i440fx BIOS type with certain CPU topologies. This prevented those virtual machines from starting. The current release fixes this issue and the maximum number of vCPUs for such virtual machines is now set within a valid range.

BZ#[1984209](#)

Previously, when failing to execute a snapshot and re-executing it later, the second try would fail due to using the previous execution data. In this release, this data will be used only when needed, in recovery mode.

BZ#[1993017](#)

Previously, when guaranteed memory (minimum available memory) was not specified in a request to add a virtual machine via the REST API, ovirt-engine set the guaranteed memory=memory, without considering the memory overcommit that is set on the cluster, and effectively disabling memory overcommit for the virtual machine. In this release, when not specified, the calculation for guaranteed memory takes into account both the specified memory and the cluster's memory overcommit.

BZ#[1999754](#)

Previously, the origin disks of the virtual machine would become locked after doing a live snapshot to a virtual machine with disks and then making a copy of them. The current release fixes this issue in ovirt-engine.

6.5.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1691696

Multipath events were introduced in Red Hat Virtualization version 4.2, but there was no way to configure email notifications for these events. The current release now allows you to configure email notifications for multipath events using either user interface or the REST API.

BZ#1939286

Previously, you could only monitor broken affinity groups using the Administration Portal. In the current release, you can now monitor broken affinity groups using both the REST API and the Administration Portal.

BZ#1941507

Previously, log files would use too much disk space because the operation runs frequently. The current release fixes this issue by implementing the logrotate feature. With this feature, logs will be rotated monthly or daily with only one archive file being retained. Host deployment, enrollment certificate, host upgrade, ova, brick setup and db-manual logs are rotated monthly. Check for update logs are rotated daily. Compressed files will be removed for update logs 24 hours from the time of creation, brick setup logs will be removed 30 days from the time of creation, and all other logs will be removed 30 days from the last metadata change.

BZ#1949046

SPICE has been deprecated, and will be removed from the RHEL 9 subscription channel. This release provides SPICE packages for RHEL 9 clients so that Red Hat Virtualization can support SPICE with RHEL 9 clients and guests.

BZ#1991171

Since Red Hat Virtualization 4.4.7, the engine-backup refuses to restore to a version older than the one used for backup. This causes 'hosted-engine --restore-from-file' to fail if the latest appliance is older than the latest Manager. In this release, such a scenario does not fail, but prompts the user to connect via SSH to the Manager virtual machine and fix the restore issue.

6.5.3. Release Notes

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

BZ#1983039

Red Hat Virtualization 4.4.8 is tested and supported with Ansible-2.9.23

6.5.4. Removed Functionality

BZ#1989823

OTOPI Java bindings have been removed as they are no longer used within the product (see oVirt bug BZ#1983047).

6.6. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 6 (OVIRT-4.4.7)

6.6.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1662657

One of the steps during hosted-engine deployment is "Activate Storage Domain". Normally, this step returns the amount of available space in the domain. Under certain conditions, this information is missing.

In previous releases, if the available space was missing, deployment failed. With this release, deployment will provide an error message and allow you to provide the details needed for creating a storage domain.

This issue appears to affect deployments using '--restore-from-file', when the existing setup has problematic block storage (iSCSI or Fiber Channel). If this happens, it is recommended that you connect to the Administration Portal and clear all storage-related issues before continuing.

BZ#1947902

Previously, using an Ansible playbook to fetch virtual machine disk information was slow and incomplete, while the REST API fetched the information faster and more completely. In this release, the Ansible playbook fetches the information completely and quickly.

BZ#1952345

Previously, when two threads in a VDSM attempted to release a storage lease at the same time, sanlock would incorrectly close the socket to VDSM and release the leases owned by VDSM. In this Release, VDSM serializes calls to `sanlock_release()` so that if multiple threads attempt to release a lease at the same time, the calls will run sequentially.

BZ#1958145

Previously, `rhsmcertd` was not enabled by default on the Red Hat Virtualization Host. As a result, the systems did not regularly report to RHSM while the subscription-manager reported no obvious issues and repositories were properly enabled. In this release, `rhsmcertd` is enabled by default in RHVH, and as a result, RHSM now receives reports regularly.

6.6.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1848986

With this release, out of sync indications have been added whenever a configuration change affecting a vNIC may be pending and the vNIC has not been updated yet. An update to the MTU or VLAN tag of a network attached to the vNIC via its profile, or an update to VM QoS, network filter, or custom properties of a vNIC profile now trigger an out of sync indication for the vNIC until it is updated. The Administration Portal displays a warning icon with tooltip text on the vNIC in the Network Interfaces tab of a Virtual Machine and on the Virtual Machine in the Virtual Machines list page. An event is reported to the Events tab as well. The REST API reports via the 'next_run_configuration_exists' attribute on the Virtual Machine and via the 'is_synced' attribute on the vNIC.

BZ#1883793

Red Hat Virtualization Host now includes an updated `scap-security-guide-rhv` which allows you to apply a PCI DSS security profile to the system during installation,

BZ#1947450

The `ovirt-host` package no longer pulls in `vdsm-hooks` automatically. To use `vdsm` hooks, you must install the appropriate hook for the specific functionality required.

BZ#1976095

The `redhat-release-virtualization-host` package no longer requires `vdsm-hooks`. In this release, the installation of `vdsm-hooks` is not mandatory for the Red Hat Virtualization Host.

6.6.3. Rebase: Bug Fixes and Enhancements

These items are rebases of bug fixes and enhancements included in this release of Red Hat Virtualization:

BZ#[1957241](#)

The RHVM Appliance has been rebased on top of the RHEL 8.4.0 Batch #1 update. Please refer to the RHEL 8.4 release notes.

BZ#[1957242](#)

In this release, the Red Hat Virtualization Host has been rebased on top of the RHEL 8.4.0 Batch #1 update. For more information, see the RHEL release notes.

6.6.4. Release Notes

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

BZ#[1804774](#)

Adding a message banner to the web administration welcome page is straight forward using custom branding that only contains a preamble section. An example of preamble branding is given here: [1783329](#).

In an engine upgrade, the custom preamble brand remains in place and will work without issue.

During engine backup and subsequent restore, on engine restore the custom preamble branding needs to be manually restored/reinstalled and verified.

BZ#[1901011](#)

Foreman integration, which allows you to provision bare metal hosts from the Administration Portal using Foreman and then added to the Manager, was deprecated in oVirt 4.4.6 / RHV 4.4.6 and removed completely in oVirt 4.4.7 / RHV 4.4.7.

Similar functionality to provision bare metal hosts can be achieved using Foreman directly and adding an already provisioned host using the Administration Portal or the REST API.

BZ#[1966145](#)

The ovirt-engine in RHV 4.4.7 requires an Ansible 2.9.z version later than Ansible 2.9.20. In addition, in RHV 4.4.7 the version limitation for a specific Ansible version has been removed, the correct Ansible version is now shipped in the RHV subscription channels.

BZ#[1966150](#)

The ovirt-hosted-engine-setup in RHV 4.4.7 requires Ansible 2.9.21 or higher. Also in RHV 4.4.7, the specific Ansible version has been removed, because the correct Ansible version is shipped through RHV channels.

BZ#[1969763](#)

In this release, the new package ovirt-openvswitch provides all the requirements for OVN/OVS for oVirt, and replaces the existing rhv-openvswitch package.

6.6.5. Known Issues

These known issues exist in Red Hat Virtualization at this time:

BZ#[1981471](#)

There is a known issue in the VM Portal in Red Hat Virtualization 4.4.7 wherein changing the size of an existing disk or changing the **Bootable** parameter results in the disk becoming inactive. This behavior is a regression from ovirt-web-ui 1.6.9-1.

Avoid editing any existing disks in the VM Portal. If it is necessary to edit a disk, use the Administration Portal.

6.6.6. Deprecated Functionality

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

BZ#[1896359](#)

The column name `threads_per_core` in the Red hat Virtualization manager Dashboard is being deprecated, and will be removed in a future release. In version 4.4.7.2 the column name for `threads_per_core` will be changed to `number_of_threads`. In the Data Warehouse, the old name will be retained as an additional alias, resulting in 2 columns providing the same data: `number_of_threads` and `threads_per_core`, and `threads_per_core` will be removed in a future version.

BZ#[1961520](#)

Using Cockpit to install the self-hosted engine is deprecated. Support for this installation method will be removed in a later release.

6.6.7. Removed Functionality

BZ#[1947944](#)

Previously, VDSM hooks were installed by default, as a dependency, when installing a RHEL host or a RHV-H host. Starting with Red Hat Virtualization 4.4.7, VDSM hooks are not installed by default. You can manually install VDSM hooks as needed. Additional resources:

- Bug 1947450 "ovirt-host shouldn't have hard dependency on vdsd hooks"
- "Installing a VDSM hook" in the RHV Administration Guide

6.7. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 5 (OVIRT-4.4.6)

6.7.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#[1932284](#)

Previously, the engine-config value `LiveSnapshotPerformFreezeInEngine` was set by default to `false` and was supposed to be used in cluster compatibility levels below 4.4. The value was set to `general` version. With this release, each cluster level has its own value, defaulting to `false` for 4.4 and above. This will reduce unnecessary overhead in removing time outs of the file system freeze command.

BZ#[1936972](#)

Previously, old RPM files were not properly removed during package removal (`uninstall`) or upgrade. As a result, removed packages were reinstalled, or, during an upgrade, the system tried to install two or more different versions at once, causing the upgrade to fail. In this release, the `dnf` plugin has been fixed, and RPM packages are now properly removed. The new version will also auto-heal the broken system by removing RPM packages which are not supposed to be in the `persisted-rpms` directory.

BZ#1940484

Previously, libvirtd could crash resulting in non-responsive hosts. The current release fixes this issue.

6.7.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#911394

This release adds the queue attribute to the virtio-scsi driver in the virtual machine configuration. This improvement enables multi-queue performance with the virtio-scsi driver.

BZ#1683987

With this release, source-load-balancing has been added as a new sub-option for xmit_hash_policy. It can be configured for bond modes balance-xor (2), 802.3ad (4) and balance-tlb (5), by specifying xmit_hash_policy=vlan+srcmac.

BZ#1745023

This enhancement adds support for the AVX-512 Vector Neural Network Instructions (AVX512_VNNI) feature for Cascadelake and Icelake CPUs. AVX512_VNNI is part of the AVX-512 extensions.

BZ#1845877

This release adds the gathering of oVirt/RHV related certificates to allow easier debugging of issues for faster customer help and issue resolution. Information from certificates is now included as part of the sosreport. Note that no corresponding private key information is gathered, due to security considerations.

BZ#1906074

With this release, support has been added for copying disks between regular Storage Domains and Managed Block Storage Domains. It is now possible to migrate disks between Managed Block Storage Domains and regular Storage Domains.

BZ#1944723

With this release, running virtual machines is supported for up to 16TB of RAM on x86_64 architectures.

6.7.3. Technology Preview

The items listed in this section are provided as Technology Previews. For further information on the scope of Technology Preview status, and the associated support implications, refer to [Technology Preview Features Support Scope](#).

BZ#1688177

Failover vNIC profiles. This feature allows users to migrate a virtual machine connected via SR-IOV with minimal downtime by using a failover network that is activated during migration.

6.7.4. Release Notes

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

BZ#1933672

Red Hat Virtualization 4.4.6 now requires Ansible 2.9.18

BZ#1950348

The default DataCenter/Cluster will be set to compatibility level 4.6 on new installations of Red Hat Virtualization 4.4.6.

6.7.5. Deprecated Functionality

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

BZ#1869251

Support for SSO for virtual machines on RHEL 7 or earlier and Windows guest operating systems is now deprecated. SSO will not be provided for virtual machines running RHEL 8 or later as guest operating systems.

BZ#1948962

Support for the Cisco Virtual Machine Fabric Extender (VM-FEX) is now deprecated. This functionality will be removed in a future release.

6.8. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 4 (OVIRT-4.4.5)

6.8.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1145658

This release allows the proper removal of a storage domain containing memory dumps, either by moving the memory dumps to another storage domain or deleting the memory dumps from the snapshot.

BZ#1815589

Previously, following a successful migration on the Self-hosted Engine, the HA agent on the source host immediately moved to the state `EngineDown`, and shortly thereafter tried to start the engine locally, if the destination host didn't update the shared storage quickly enough, marking the Manager virtual machine as being up. As a result, starting the virtual machine failed due to a shared lock held by the destination host. This also resulted in generating false alarms and notifications. In this release, the HA agent first moves to the state `EngineMaybeAway`, providing the destination host more time to update the shared storage with the updated state. As a result, no notifications or false alarms are generated. Note: in scenarios where the virtual machine needs to be started on the source host, this fix slightly increases the time it takes the Manager virtual machine on the source host to start.

BZ#1860492

Previously, if the `Seal` option was used when creating a template for Linux virtual machines, the original host name was not removed from the template. In this release, the host name is set to `localhost` or the new virtual machine host name.

BZ#1895217

Previously, after a host that virtual machines were pinned to was removed, the Manager failed to start. As a result, the setup of the self-hosted engine failed. In this release, when a host is removed, virtual machines no longer remain pinned to that host and the Manager can start successfully.

BZ#1905108

Previously, plugging several virtual disks to a running virtual machine over a short time interval could cause a failure to plug some of the disks, and issued an error message: "Domain already contains a disk with that address". In this release, this is avoided by making sure that a disk that is being plugged to a running virtual machine is not assigned with an address that has already been assigned to another disk that was previously plugged to the virtual machine.

BZ#1916032

Previously, if a host in the Self-hosted Engine had an ID number higher than 64, other hosts did not recognize that host, and the host did not appear in 'hosted-engine --vm-status'. In this release, the Self-hosted Engine allows host ID numbers of up to 2000.

BZ#1916519

Previously, the used memory of the host didn't take the SReclaimable memory into consideration while it did for free memory. As a result, there were discrepancies in the host statistics. In this release, the SReclaimable memory is a part of the used memory calculation.

BZ#1921119

Previously, a cluster page indicated an out-of-sync cluster when in fact all networks were in sync. This was due to a logical error in the code when a host QoS was assigned to two networks on same host. In this release, the cluster page does not show out-of-sync for this setup.

BZ#1931786

Previously, the Red Hat Virtualization Manager missed the **SknToAVLevel** configuration for 4.5 clusters. In this release, the **SknToAVLevel** is available for these clusters and allows Windows updates to update Red Hat related drivers for the guest host.

BZ#1940672

Previously, when Red Hat Virtualization Manager 4.4.3+ upgraded a host in a cluster that is set with Skylake/Cascadelake CPU type and compatibility level 4.4 (or lower), the host could become non-operational. In this release, the Red Hat Virtualization Manager blocks the upgrade of a host when the cluster is set with a secured Skylake/Cascadelake CPU type 1 (Secure Intel Skylake Client Family, Secure Intel Skylake Server Family, or Secure Intel Cascadelake Server Family) where the upgrade is likely to make the host non-operational. If the cluster is set with an insecure Skylake/Cascadelake CPU type 2 (Intel Skylake Client Family, Intel Skylake Server Family, or Intel Cascadelake Server Family) the user is notified with a recommendation to change the cluster to a secure Skylake/Cascadelake CPU type, but is allowed to proceed with the host upgrade. In order to make the upgraded host operational, the user must enable TSX at the operating system level.

6.8.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1080725

Setting static IPv6 addresses on hosts is now supported.

BZ#1155275

With this update, you can synchronize a LUN's disk size on all hosts that are connected to the LUN's disk, and update its size on all running virtual machines to which it is attached.

To refresh a LUN's disk size: 1. In the Administration portal, go to Compute>Virtual Machines and select a virtual machine. 2. In the Disks tab, click Refresh LUN.

For connected virtual machines that are not running, update the disk on the virtual machines once they are running.

BZ#1431792

This feature allows adding emulated TPM (Trusted Platform Module) devices to Virtual Machines. TPM devices are useful in cryptographic operations (generating cryptographic keys, random numbers, hashes, etc.) or for storing data that can be used to verify software configurations securely. QEMU and libvirt implement support for emulated TPM 2.0 devices, which is what Red Hat Virtualization uses to add TPM devices to Virtual Machines.

Once an emulated TPM device is added to the Virtual Machine, it can be used as a normal TPM 2.0 device in the guest OS.

BZ#1688186

Previously, the CPU and NUMA pinning were done manually or automatically only by using the REST API when adding a new virtual machine.

With this update, you can update the CPU and NUMA pinning using the Administration portal and when updating a virtual machine.

BZ#1755156

In this release, it is now possible to enter a path to the OVA archive for local appliance installation using the cockpit-ovirt UI.

BZ#1836661

Previously the logical names for disks without a mounted filesystem were not displayed in the Red Hat Virtualization Manager. In this release, logical names for such disks are properly reported provided the version of QEMU Guest Agent in the virtual machine is 5.2 or higher.

BZ#1837221

Previously, the Manager was able to connect to hypervisors only using RSA public keys for SSH connection. With this update, the Manager can also use EcDSA and EdDSA public keys for SSH.

Previously, RHV used only the fingerprint of an SSH public key to verify the host. Now that RHV can use EcDSA and EdDSA public keys for SSH, the whole public SSH key must be stored in the RHV database. As a result, using the fingerprint of an SSH public key is deprecated.

When adding a new host to the Manager, the Manager will always use the strongest public key that the host offers, unless an administrator provides another specific public key to use.

For existing hosts, the Manager stores the entire RSA public key in its database on the next SSH connection. For example, if an administrator moves the host to maintenance mode and executes an enroll certificate or reinstalls the host, to use a different public key for the host, the administrator can provide a custom public key using the REST API or by fetching the strongest public key in the **Edit host** dialog in the Administration Portal.

BZ#1884233

The authz name is now used as the user domain on the RHVM (Red hat Virtualization Manager) home page. It replaces the profile name. Additionally, several log statements related to authorization/authentication flow have been made consistent by presenting both the user authz name and the profile name where applicable. In this release, <username>@<authz name> is displayed on the home page once the user is successfully logged in to the RHVM. In addition, the log statements now contain both the authz name and the profile name as well as the username.

BZ#1899583

With this update, live updating of vNIC filter parameters is possible. When adding\deleting\editing the filter parameters of a virtual machine's vNIC in the Manager, the changes are applied immediately on the device on the virtual machine.

BZ#1910302

Previously, the storage pool manager (SPM) failed to switch to another host if the SPM had uncleared tasks. With this enhancement, a new UI menu has been added to enable cleaning up finished tasks.

BZ#1922200

Previously, records in the **event_notification_hist** table were erased only during regular cleanup of the **audit_log** table. By default **audit_log** table records that are older than 30 days are removed.

With this update, records in the **event_notification_hist** table are kept for 7 days. You can override this limit by creating a custom configuration file **/etc/ovirt-engine/notifier/notifier.conf.d/history.conf** with the following content:

```
DAYS_TO_KEEP_HISTORY=<number_of_days>
```

Where **<number_of_days>** is the number of days to keep records in the **event_notification_hist** table. After adding this file the first time or after changing this value, you need to restart the **ovirt-engine-notifier** service:

```
# systemctl restart ovirt-engine-notifier
```

BZ#1927851

The timezone AUS Eastern Standard Time has been added to cover daylight saving time in Canberra, Melbourne and Sydney.

6.8.3. Technology Preview

The items listed in this section are provided as Technology Previews. For further information on the scope of Technology Preview status, and the associated support implications, refer to [Technology Preview Features Support Scope](#).

BZ#1919805

With this update, support for the Bochs display video card emulator has been added for UEFI guest machines. This feature is now the default for a guest UEFI server that uses cluster-level 4.6 or above, where BOCHS is the default value of Video Type.

6.8.4. Release Notes

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

BZ#1917409

Red Hat Virtualization (RHV) 4.4.5+ includes Ansible within its own channels. Therefore, the **ansible-2.9-for-rhel-8-x86_64-rpms** channel does not need to be enabled on either the RHV Manager or RHEL-H hosts. Customers upgrading from RHV releases 4.4.0 through 4.4.4 or 4.3.z, should remove that channel from their RHV Manager and RHEL-H hosts.

BZ#1921104

Ansible-2.9.17 is required for proper setup and functioning of Red Hat Virtualization Manager 4.4.5.

BZ#1921108

ovirt-hosted-engine-setup now requires Ansible-2.9.17.

6.8.5. Known Issues

These known issues exist in Red Hat Virtualization at this time:

BZ#1923169

Limiting package subscriptions to the Ansible 2.9 channel is not required for Red Hat Virtualization 4.4.5 installation. Workaround: Remove the Ansible 2.9 channel subscription on Red Hat Virtualization Manager and Red Hat Virtualization hosts when upgrading from Red Hat Virtualization version 4.4.4 or lower.

6.9. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 3 (OVIRT-4.4.4)

6.9.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1694711

Previously, the UI NUMA panel showed an incorrect NUMA node for a corresponding socket. In this release, the NUMA nodes are ordered by the database, and the socket matches the NUMA node.

BZ#1792905

Previously, users could invoke the 'sparsify' operation on thin-provisioned (qcow) disks with a single volume. While the freed space was reclaimed by the storage device, the image size didn't change and users could see this as a failure to sparsify the image. In this release, sparsifying a thin-provisioned disks with a single volume is now blocked.

BZ#1797553

Previously, when the export VM as OVA command was executed, other operations on the engine were blocked. This made the engine execute operations serially while expected to be parallel. In this release, engine tasks are executed in parallel, unblocked by the export VM as OVA command.

BZ#1834876

Previously, ovirt-vmconsole caused SELinux denials logged by sshd. While it generally didn't affect ovirt-vmconsole functionality, it could raise false alerts. In this release, there are no ovirt-vmconsole SELinux denials issued.

BZ#1868967

Previously, the Red Hat Virtualization Host (RHV-H) repository (rhvh-4-for-rhel-8-x86_64-rpms) did not include the libsmbclient package, which is a dependency for the sssd-ad package. Consequently, the sssd-ad package failed to install.

With this update, the libsmbclient is now in the RHV-H repository, and sssd-ad now installs on RHV-H.

BZ#1871792

Previously, when importing a Virtual Machine using virt-v2v and the ovirt-engine service restarted, the import failed. In this release, the import continues as long there is an async command running, allowing the import to complete successfully.

BZ#1886750

Previously, when removing a host, neither the virtual machine's host device nor the host dependency list were removed. As a result, this sometimes caused error messages when running the virtual machine on another host, and leaving behind incorrect entries in the database. In this release, the virtual machine host device and entry in the virtual machine's dependency list for the removed host are no longer included in the database, and the associated error messages no longer occur.

BZ#1888142

Previously, stateless virtual machines including pool virtual machines issued a warning regarding not using the latest version, even when the virtual machine was not set to use the last version. In this release, there is no attempt to change the version of the template that virtual machines are based on unless they are set to use the last version of a template and thus this warning is omitted from the log.

BZ#1889987

Previously, when the export VM as OVA command was executed, other operations on the engine were blocked. This made the engine execute operations serially while expected to be parallel. In this release, engine tasks are executed in parallel, unblocked by the export VM as OVA command.

BZ#1897422

Previously, virtual machines that were imported from OVA files were not set with small or large icons. In this release, small/large icons are set according to the operating system the Virtual Machine is configured with during import from OVA files. Consequently, virtual machines that are imported from OVA files are set with small and large icons.

BZ#1899768

Previously, live-merge failed on snapshots of virtual machines that are set with bios-type = CLUSTER-DEFAULT. In this release, live-merge works on snapshots of virtual machines that are set with bios-type = CLUSTER-DEFAULT.

6.9.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1710446

With this enhancement, the Europe/Helsinki timezone can now be set in virtual machines.

BZ#1729897

Previously, the NUMA tune mode was set according to the Virtual Machine, using the same setting for every virtual NUMA node of the Virtual Machine. In this release, it is possible to set the NUMA tune mode for each virtual NUMA node.

BZ#1881250

Before this update, when restoring a self-hosted engine you needed to enter the same FQDN that you used in the backup. With this update, when you run **hosted-engine --deploy --restore-from-file=backup_file** deploy script fetches the FQDN from the backup file and you don't need to enter it.

BZ#1893385

In previous versions, when using 'hosted-engine --restore-from-file' to restore or upgrade, if the backup included extra required networks in the cluster, and if the user did not reply 'Yes' to the question about pausing the execution, deployment failed. In this release, regardless of the answer to 'pause?', if the host is found to be in state "Non Operational", deployment will pause, outputting relevant information to the user, and waiting until a lock file is removed. This should allow the user to then connect to the web admin UI and manually handle the situation, activate the host, and then remove the lock file and continue the deployment. This release also allows supplying a custom hook to fix such issues automatically.

BZ#1897399

The vdsm-hook related packages have been updated in the RHV-H x86_64 repository.

6.9.3. Release Notes

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

BZ#1901946

Red Hat Virtualization Manager now requires Ansible 2.9.15.

BZ#1901947

In this release, Red Hat Virtualization Self-Hosted Engine Manager setup requires ansible-2.9.15.

6.9.4. Known Issues

These known issues exist in Red Hat Virtualization at this time:

BZ#1846256

Grafana now allows Single-Sign-On (SSO) using oVirt engine users, but does not allow automatic creation of them. A future version (see bugs 1835163 and 1807323) will allow automatic creation of admin users. For now, users must be created manually, but following that, they can login using SSO.

6.9.5. Deprecated Functionality

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

BZ#1898545

Support for Red Hat OpenStack block storage (Cinder) is now deprecated, and will be removed in a future release.

BZ#1899867

Support for Red Hat OpenStack Networking (Neutron) as an external network provider is now deprecated, and will be removed in Red Hat Virtualization 4.4.5.

BZ#1901073

Support for third party websocket proxy deployment is now deprecated, and will be removed in a future release.

BZ#1901211

Support for instance types that can be used to define the hardware configuration of a virtual machine is now deprecated. This functionality will be removed in a future release.

6.9.6. Removed Functionality

BZ#1899865

Experimental support for DPDK has been removed in Red Hat Virtualization 4.4.4.

6.10. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 2 (OVIRT-4.4.3)

6.10.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1702016

Previously, the Manager allowed adding or migrating hosts configured as self-hosted engine hosts to a data center or cluster other than the one in which the self-hosted engine VM is running, even though all self-hosted engine hosts should be in the same data center and cluster. The hosts' IDs were identical to what they were when initially deployed, causing a Sanlock error. Consequently, the agent failed to start.

With this update, an error is raised when adding a new self-hosted engine host or migrating an existing one to a data center or cluster other than the one in which the self-hosted engine is running.

To add or migrate a self-hosted engine host to a data center or cluster other than the one in which the self-hosted engine is running, you need to disable the host from being a self-hosted engine host by reinstalling it. Follow these steps in the Administration Portal:

1. Move the host to Maintenance mode.
2. Invoke Reinstall with the **Hosted Engine UNDEPLOY** option selected. If using the REST API, use the **undeploy_hosted_engine** parameter.

3. Edit the host and select the target data center and cluster.
4. Activate the host.
For details, see the Administration Guide or REST API Guide.

BZ#1760170

Previously, the MAC Pool search functionality failed to find unused addresses. As a result, creating a vNIC failed. In this release, the MAC pool search is now able to locate an unused address in the pool, and all unused addresses are assigned from a pool.

BZ#1808320

Previously, users with specific Data Center or Cluster permissions could not edit the cluster they have access to. In this release, users with specific Data Center or Cluster permissions can edit the cluster they have access to if they don't change the MAC pool associated with the cluster or attempt to add a new MAC pool.

BZ#1821425

Previously, when deploying Self-Hosted Engine, the Appliance size was not estimated correctly, and as a result, not enough space was allotted, and unpacking the Appliance failed. In this release, the Appliance size estimation and unpacking space allotment are correct, and deployment succeeds.

BZ#1835550

Previously, when the RHV Manager requested a listing of available ports from the `ovirt-provider-ovn`, the implementation was not optimized for scaling scenarios. As a result, in scenarios with many active OVN vNICs on virtual machines, starting a virtual machine using OVN vNICs was slow and sometimes timed out. In this release, implementation of listing ports has been optimized for scaling, as starting a VM with OVN vNICs with many active OVN vNICs is quicker.

BZ#1855305

Previously, hot-plugging a disk to Virtual Machine sometimes failed if the disk was assigned an address that was already assigned to a host-passthrough disk device. In this release, conflicts are avoided by preventing an address that is assigned to host-passthrough disk device from being assigned to a disk that is hot-plugged to the Virtual Machine.

BZ#1859314

Previously, unicode strings were not handled properly by the `rhv-log-collector-analyzer` after porting to python3. In this release, unicode strings are now handled properly.

BZ#1866862

Previously, Virtual Machines deployed on AMD EPYC hosts without NUMA enabled sometimes failed to start, with an unsupported configuration error reported. In this release, Virtual Machines start successfully on AMD EPYC hosts.

BZ#1866981

Previously, unicode strings were not handled properly by the `ovirt-engine-db-query` after porting to Python3. In this release, unicode strings are now handled properly.

BZ#1871694

Previously, changing a cluster's bios type to UEFI or UEFI+SecureBoot changed the Self-Hosted Engine Virtual Machine that runs within the cluster as well. As a result, the Self-Hosted Engine Virtual Machine failed to reboot upon restart. In this release, the Self-Hosted Engine Virtual Machine is configured with a custom bios type, and does not change if the cluster's bios type changes.

BZ#1871819

Previously, when changes were made in the logical network, the `ovn-controller` on the host sometimes exceeded the timeout interval during recalculation, and calculation was triggered repeatedly. As a result, OVN networking failed. In this release, recalculation by the `ovn-controller` is only triggered once per change, and OVN networking is maintained.

BZ#1877632

Previously, when the VDSM was restarted during a Virtual Machine migration on the migration destination host, the VM status wasn't identified correctly. In this release, the VDSM identifies the migration destination status correctly.

BZ#1878005

Previously, when a RHV-H 4.4 host was being prepared as a conversion host for Infrastructure Migration (IMS) using CloudForms 5, installing the v2v-conversion-host-wrapper failed due to a dependency on the missing libcgrouper-tools package. The current release fixes this issue. It ships the missing package in the rhvh-4-for-rhel-8-x86_64-rpms repository.

6.10.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1613514

This enhancement adds the 'nowait' option to the domain stats to help avoid instances of non-responsiveness in the VDSM. As a result, libvirt now receives the 'nowait' option to avoid non-responsiveness.

BZ#1657294

With this enhancement, the user can change the HostedEngine VM name after deployment.

BZ#1745024

With this enhancement, the Intel Icelake Server Family is now supported in 4.4 and 4.5 compatibility levels.

BZ#1752751

This enhancement enables customization of the columns displayed in the Virtual Machines table of the Administration Portal.

- Two new columns have been added to the Virtual Machines table - (number of) 'vCPUs', and 'Memory (MB)'. These columns are not displayed by default.
- A new pop-up menu has been added to the Virtual Machines table that allows you to reset the table column settings, and to add or remove columns from the display.
- The selected column display settings (column visibility and order) are now persistent on the server by default, and are migrated (uploaded) to the server. This functionality can be disabled in the User > Options popup, by de-selecting the 'Persist grid settings' option.

BZ#1797717

With this enhancement, you can now perform a free text search in the Administration Portal that includes internally defined keywords.

BZ#1812316

With this enhancement, when scheduling a Virtual Machine with pinned NUMA nodes, memory requirements are calculated correctly by taking into account the available memory as well as hugepages allocated on NUMA nodes.

BZ#1828347

Previously, you used Windows Guest Tools to install the required drivers for virtual machines running Microsoft Windows. Now, RHV version 4.4 uses VirtIO-Win to provide these drivers. For clusters with a compatibility level of 4.4 and later, the engine sign of the guest-agent depends on the available VirtIO-Win. The auto-attaching of a driver ISO is dropped in favor of Microsoft Windows updates. However, the initial installation needs to be done manually.

BZ#1845397

With this enhancement, the migration transfer speed in the VDSM log is now displayed as Mbps (Megabits per second).

BZ#1854888

This enhancement adds error handling for OVA import and export operations, providing successful detection and reporting to the Red Hat Virtualization Manager if the qemu-img process fails to complete.

BZ#1862968

This enhancement introduces a new option for automatically setting the CPU and NUMA pinning of a Virtual Machine by introducing a new configuration parameter, `auto_pinning_policy`. This option can be set to **existing**, using the current topology of the Virtual Machine's CPU, or it can be set to **adjust**, using the dedicated host CPU topology and changing it according to the Virtual Machine.

BZ#1879280

Default Data Center and Default Cluster, which are created during Red Hat Virtualization installation, are created with 4.5 compatibility level by default in Red Hat Virtualization 4.4.3. Please be aware that compatibility level 4.5 requires RHEL 8.3 with Advanced Virtualization 8.3.

6.10.3. Technology Preview

The items listed in this section are provided as Technology Previews. For further information on the scope of Technology Preview status, and the associated support implications, refer to [Technology Preview Features Support Scope](#).

BZ#1361718

This enhancement provides support for attaching an emulated NVDIMM to virtual machines that are backed by NVDIMM on the host machine. For details, see [Virtual Machine Management Guide](#)

6.10.4. Release Notes

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

BZ#1888626

Ansible-2.9.14 is required for proper setup and functioning of Red Hat Virtualization Manager 4.4.3.

BZ#1888628

Ansible-2.9.14 is required for proper setup and functioning of Red Hat Virtualization Manager 4.4.3.

6.10.5. Known Issues

These known issues exist in Red Hat Virtualization at this time:

BZ#1886487

RHV-H 4.4.3 is based on RHEL 8.3, which uses a new version of Anaconda (BZ#1691319). This new combination introduces a regression that breaks the features that BZ#1777886 "[RFE] Support minimal storage layout for RHVH" added to RHV-H 4.4 GA. This regression affects only new installations of RHV-H 4.4.3. To work around this issue, first install the RHV-H 4.4 GA ISO and then upgrade the host to RHV-H 4.4.3.

6.10.6. Removed Functionality

BZ#1884146

The ovirt-engine-api-explorer package has been deprecated and removed in Red Hat Virtualization Manager 4.4.3. Customers should use the official REST API Guide instead, which provides the same information as ovirt-engine-api-explorer. See the [Red Hat Virtualization REST API Guide](#).

6.11. RED HAT VIRTUALIZATION 4.4 BATCH UPDATE 1 (OVIRT-4.4.2)

6.11.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1663135 Previously, virtual machine (VM) imports from sparse storage assumed the target also used sparse storage. However, block storage does not support sparse allocation. The current release fixes this issue: Imports to block storage for COW image file formats preserve sparse allocation types and work as expected.

BZ#1740058 Before this update, when you ran a VM that was previously powered off, the VDSM log contained many uninformative warnings. This update resolves the issue and these warnings no longer appear in the VDSM log.

BZ#1793290 Previously, the partition number was not removed from the disk path, so the disk mapping pointed to an arbitrary partition on the disk, instead of the disk itself. The current release fixes this issue: Disk mapping contains only disk paths.

BZ#1843234 Before this update, when using Firefox 74.0.1 and greater with Autofill enabled, the Administration Portal password was used to autofill the Sysprep Administrator password field in the **Initial Run** tab of the **Run Virtual Machine(s)** dialog. Validation of the dialog failed because the password did not match the **Verify admin password** field, which was not autofilled.

This issue has been resolved, and the browser no longer uses Autofill for the Sysprep admin password field.

BZ#1855761 Firefox 68 ESR does not support several standard units in the <svg> tag. (For more information, see [1287054](#).) Consequently, before this update, aggregated status card icons appeared larger than intended.

This update uses supported units to size icons, and as a result, icons appear correctly in Firefox 68 ESR and later.

BZ#1866956 Before this update, when the **Blank** template was set with HA enabled, a backup of the RHVM virtual machine saved this setting. This setting prevented deployment of the RHVM virtual machine during the restore operation. Consequently, upgrading to Red Hat Virtualization 4.4 failed.

This update disables the HA setting on the RHVM virtual machine during self-hosted engine deployment, and as a result, the upgrade to 4.4 succeeds.

BZ#1867038 Previously, restoring from backup or upgrading from RHV 4.3 to RHV 4.4 failed while restoring SSO configuration requiring the gssapi module. In this release, the mod_auth_gssapi package is included in the RHV Manager appliance, and upgrading or restoring from backup succeeds even when SSO configuration is included.

BZ#1869209 Before this update, adding hosts with newer Intel CPUs to IBRS family clusters could fail, and the spec_ctrl flag was not detected.

This update resolves the issue and you can now add hosts with modern Intel CPUs to the IBRS family clusters and the `spec_ctrl` flag is detected.

BZ#1869307 Previously, vim-enhanced package installation failed on Red Hat Virtualization Host 4.4. In this release, vim-enhanced package installation succeeds.

BZ#1870122 Previously, when upgrading a self-hosted engine from RHV 4.3 to RHV 4.4, Grafana was installed by default during the engine-setup process, and if the remote database option was selected for Data Warehouse setup, the upgrade failed. In this release, Grafana deployment is disabled by default in self-hosted engine installations, and the upgrade process succeeds.

BZ#1871235 Before this update, a virtual machine that was set with a High Performance profile using the REST API could not start if it had any USB devices, because the High Performance profile disabled the USB controller. Additionally, hosts in clusters with compatibility level 4.3 did not report the TSC frequency.

This update resolves these issues. TSC is no longer present for 4.3 clusters and the VM won't have USB devices when there is no USB controller, allowing VMs to run normally.

BZ#1875851 Firefox 68 ESR does not support several standard units in the `<svg>` tag. (For more information, see [1287054](#).) Consequently, before this update, aggregated status card icons appeared larger than intended.

This update uses supported units to size icons, and as a result, icons appear correctly in Firefox 68 ESR and later.

6.11.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#1749803 This enhancement enables you to set the same target domain for multiple disks.

Previously, when moving or copying multiple disks, you needed to set the target domain for each disk separately. Now, if a common target domain exists, you can set it as the target domain for all disks.

If there is no common storage domain, such that not all disks are moved or copied to the same storage domain, set the common target domain as 'Mixed'.

BZ#1819260 The following search filter properties for Storage Domains have been enhanced: - 'size' changed to 'free_size' - 'total_size' added to the search engine options - 'used' changed to 'used_size'

For example , you can use now the following in the Storage Domains tab:

free_size → 6 GB and total_size < 20 GB

6.11.3. Known Issues

These known issues exist in Red Hat Virtualization at this time:

BZ#1674497 Previously, hot-unplugging memory on RHEL 8 guests generated a error because the memory DIMM was in use. This prevented the removal of that memory from that VM. To work around this issue, add **movable_node** by setting the virtual machine's kernel command-line parameters, [as described here](#).

BZ#1837864 When upgrading from Red Hat Virtualization 4.4 GA (RHV 4.4.1) to RHEV 4.4.2, the host enters emergency mode and cannot be restarted. Workaround: see the solution in <https://access.redhat.com/solutions/5428651>

BZ#1850378 When you upgrade Red Hat Virtualization from 4.3 to 4.4 with a storage domain that is locally mounted on / (root), the upgrade fails. Specifically, on the host it appears that the upgrade is successful, but the host's status on the Administration Portal, is **NonOperational**.

Local storage should always be defined on a file system that is separate from / (root). Use a separate logical volume or disk, to prevent possible loss of data during upgrades.

If you are using / (root) as the locally mounted storage domain, migrate your data to a separate logical volume or disk prior to upgrading.

6.12. RED HAT VIRTUALIZATION 4.4 GENERAL AVAILABILITY (OVIRT-4.4.1)

6.12.1. Bug Fix

These bugs were fixed in this release of Red Hat Virtualization:

BZ#1061569

Previously, if you requested multiple concurrent network changes on a host, some requests were not handled due to a 'reject on busy' service policy. The current release fixes this issue with a new service policy: If resources are not available on the server to handle a request, the host queues the request for a configurable period. If server resources become available within this period, the server handles the request. Otherwise, it rejects the request. There is no guarantee for the order in which queued requests are handled.

BZ#1437559

When a virtual machine is loading, the Manager machine sends the domain XML with a NUMA Configuration CPU list containing the current CPU IDs. As a result, the libvirt/QEMU issued a warning that the NUMA Configuration CPU list is incomplete, and should contain IDs for all of the virtual CPUs. In this release, the warning no longer appears in the log.

BZ#1501798

Previously, using **ovirt-engine-rename** did not handle the OVN provider correctly. This caused bad IP address and hostname configurations, which prevented adding new hosts and other related issues. The current release fixes this issue. Now, **ovirt-engine-rename** handles **ovirt-provider-ovn** correctly, resolving the previous issues.

BZ#1569593

When deploying the self-hosted engine on a host, the Broker and Agent Services are brought down momentarily. When the VDSM service attempted to send a get_stats message before the services are restarted, the communication failed and the VDSM logged an error message. In this release, such events now result in a warning, and are not flagged or logged as errors.

BZ#1569926

Previously, commands trying to access an unresponsive NFS storage domain remained blocked for 20-30 minutes, which had significant impacts. This was caused by the non-optimal values of the NFS storage timeout and retry parameters. The current release fixes this issue: It changes these parameter

values so commands to a non-responsive NFS storage domain fail within one minute.

BZ#1573600

Previously, importing a virtual machine (VM) from a snapshot that included the memory disk failed if you imported it to a storage domain that is different from the storage domain where the snapshot was created. This happened because the memory disk depended on the storage domain remaining unchanged. The current release fixes this issue. Registration of the VM with its memory disks succeeds. If the memory disk is not in the RHV Manager database, the VM creates a new one.

BZ#1583328

Previously, a custom scheduler policy was used without the **HostDevice** filter. Consequently, the virtual machine was scheduled on an unsupported host, causing a null pointer exception.

With this update, some filter policy units are now mandatory, including **HostDevice**. These filter policy units are always active, cannot be disabled, and they are no longer visible in the UI or API.

These filters are mandatory:

- Compatibility-Version
- CPU-Level
- CpuPinning
- HostDevice
- PinToHost
- VM leases ready

BZ#1585986

Previously, if you lowered the cluster compatibility version, the change did not propagate to the self-hosted engine virtual machine. As a result, the self-hosted engine virtual machine was not compatible with the new cluster version; you could not start or migrate it to another host in the cluster. The current release fixes this issue: The lower cluster compatibility version propagates to the self-hosted engine virtual machine; you can start and migrate it.

BZ#1590911

Previously, if two or more templates had the same name, selecting any of these templates displayed the same details from only one of the templates. This happened because the Administration Portal identified the selected template using a non-unique template name. The current release fixes this issue by using the template ID, which is unique, instead.

BZ#1596178

Previously, the VM Portal was inconsistent in how it displayed pool cards. After a user took all of the virtual machines from them, the VM Portal removed automatic pool cards but continued displaying manual pool cards. The current release fixes this issue: VM Portal always displays a pool card, and the card has a new label that shows how many virtual machines the user can take from the pool.

BZ#1598266

When a system had many FC LUNs with many paths per LUN, and a high I/O load, scanning of FC devices became slow, causing timeouts in monitoring VM disk size, and making VMs non-responsive. In

this release, FC scans have been optimized for speed, and VMs are much less likely to become non-responsive.

BZ#1612152

Previously, Virtual Data Optimizer (VDO) statistics were not available for VDO volumes with an error, so VDO monitoring from VDSM caused a traceback. This update fixes the issue by correctly handling the different outputs from the VDO statistics tool.

BZ#1634742

Previously, if you decided to redeploy RHV Manager as a hosted engine, running the **ovirt-hosted-engine-cleanup** command did not clean up the `/etc/libvirt/qemu.conf` file correctly. Then, the hosted engine redeployment failed to restart the libvirtd service because **libvirtd-tls.socket** remained active. The current release fixes this issue. You can run the cleanup tool and redeploy the Manager as a hosted engine.

BZ#1639360

Previously, mixing the Logical Volume Manager (LVM) activation and deactivation commands with other commands caused possible undefined LVM behavior and warnings in the logs. The current release fixes this issue. It runs the LVM activation and deactivation commands separately from other commands. This produces resulting well-defined LVM behavior and clear errors in case of failure.

BZ#1650417

Previously, if a host failed and if the RHV Manager tried to start the high-availability virtual machine (HA VM) before the NFS lease expired, OFD locking caused the HA VM to fail with the error, "Failed to get "write" lock Is another process using the image?". If the HA VM failed three times in a row, the Manager could not start it again, breaking the HA functionality. The current release fixes this issue. RHV Manager would continue to try starting the VM even after three failures (the frequency of the attempts decreases over time). Eventually, once the lock expires, the VM would be started.

BZ#1650505

Previously, after increasing the cluster compatibility version of a cluster with virtual machines that had outstanding configuration changes, those changes were reverted. The current release fixes this issue. It applies both the outstanding configuration changes and the new cluster compatibility version to the virtual machines.

BZ#1654555

Previously the `/` filesystem automatically grew to fit the whole disk, and the user could not increase the size of `/var` or `/var/log`. This happened because, if a customer specified a disk larger than 49 GB while installing the Hosted Engine, the whole logical volume was allocated to the root (`/`) filesystem. In contrast, for the RHVM machine, the critical filesystems are `/var` and `/var/log`.

The current release fixes this issue. Now, the RHV Manager appliance is based on the logical volume manager (LVM). At setup time, its PV and VG are automatically extended, but the logical volumes (LVs) are not. As a result, after installation is complete, you can extend all of the LVs in the Manager VM using the free space in the VG.

BZ#1656621

Previously, an imported VM always had 'Cloud-Init/Sysprep' turned on. The Manager created a `Vmlnit` even when one did not exist in the OVF file of the OVA. The current release fixes this issue: The imported VM only has 'Cloud-Init/Sysprep' turned on if the OVA had it enabled. Otherwise, it is disabled.

BZ#1658101

In this release, when updating a Virtual Machine using a REST API, not specifying the console value now means that the console state should not be changed. As a result, the console keeps its previous state.

BZ#1659161

Previously, changing the template version of a VM pool created from a delete-protected VM made the VM pool non-editable and unusable. The current release fixes this issue: It prevents you from changing the template version of the VM pool whose VMs are delete-protected and fails with an error message.

BZ#1659574

Previously, after upgrading RHV 4.1 to a later version, high-availability virtual machines (HA VMs) failed validation and did not run. To run the VMs, the user had to reset the lease Storage Domain ID. The current release fixes this issue: It removes the validation and regenerates the lease information data when the lease Storage Domain ID is set. After upgrading RHV 4.1, HA VMs with lease Storage Domain IDs run.

BZ#1660071

Previously, when migrating a paused virtual machine, the Red Hat Virtualization Manager did not always recognize that the migration completed. With this update, the Manager immediately recognizes when migration is complete.

BZ#1664479

When you use the engine ("Master") to set the high-availability host running the engine virtual machine (VM) to maintenance mode, the ovirt-ha-agent migrates the engine VM to another host. Previously, in specific cases, such as when these VMs had an old compatibility version, this type of migration failed. The current release fixes this problem.

BZ#1670102

Previously, to get the Cinder Library (cinderlib), you had to install the OpenStack repository. The current release fixes this issue by providing a separate repository for cinderlib.

To enable the repository, enter:

```
$ dnf config-manager --set-enabled rhel-8-openstack-cinderlib-rpms
```

To install cinderlib, enter:

```
$ sudo dnf install python3-cinderlib
```

BZ#1676582

Previously, the user interface used the wrong unit of measure for the VM memory size in the VM settings of Hosted Engine deployment via cockpit: It showed MB instead of MiB. The current release fixes this issue: It uses MiB as the unit of measure.

BZ#1678007

Before this update, you could import a virtual machine from a cluster with a compatibility version lower than the target cluster, and the virtual machine's cluster version would not automatically update to the new cluster's compatibility version, causing the virtual machine's configuration to be invalid.

Consequently, you could not run the virtual machine without manually changing its configuration. With this update, the virtual machine's cluster version automatically updates to the new cluster's compatibility version. You can import virtual machines from cluster compatibility version 3.6 or newer.

BZ#1678262

Previously, when you created a virtual machine from a template, the BIOS type of defined in the template did not take effect on the new virtual machine. Consequently, the BIOS type on the new virtual machine was incorrect. With this update, this bug is fixed, so the BIOS type on the new virtual machine is correct.

BZ#1679471

Previously, the console client resources page showed truncated titles for some locales. The current release fixes this issue. It re-arranges the console client resources page layout as part of migrating from Patternfly 3 to Patternfly 4 and fixes the truncated titles.

BZ#1680368

Previously, the **slot** parameter was parsed as a string, causing disk rollback to fail during the creation of a virtual machine from a template when using an Ansible script. Note that there was no such failure when using the Administration Portal to create a virtual machine from a template. With this update, the **slot** parameter is parsed as an int, so disk rollback and virtual machine creation succeed.

BZ#1684266

When a large disk is converted as part of VM export to OVA, it takes a long time. Previously, the SSH channel the export script timed out and closed due to the long period of inactivity, leaving an orphan volume. The current release fixes this issue: Now, the export script adds some traffic to the SSH channel during disk conversion to prevent the SSH channel from being closed.

BZ#1684537

Previously, a virtual machine could crash with the message "qemu-kvm: Failed to lock byte 100" during a live migration with storage problems. The current release fixes this issue in the underlying platform so the issue no longer happens.

BZ#1685034

`after_get_caps` is a vdsd hook that periodically checks for a database connection. This hook requires `ovs-vswitchd` to be running in order to execute properly. Previously, the hook ran even when `ovs-vswitchd` was disabled, causing an error to be logged to `/var/log/messages`, eventually flooding it. Now, when the hook starts, it checks if the OVS service is available, and bails out of the hook when the service is not available, so the log is no longer flooded with these error messages.

BZ#1686575

Previously, the self-hosted engine high availability host's management network was configured during deployment. The VDSM took over the Network Manager and configured the selected network interface during initial deployment, while the Network Manager remained disabled. During restore, there was no option to attach additional (non-default) networks, and the restore process failed because the high-availability host had no connectivity to networks previously configured by the user that were listed in the backup file.

In this release, the user can pause the restore process, manually add the required networks, and resume the restore process to completion.

BZ#1688052

Previously, the gluster fencing policy check failed due to a non-iterable object and threw an exception. The code also contained a minor typo. The current release fixes these issues.

BZ#1688159

Previously, when a virtual machine migration entered post-copy mode and remained in that mode for a long time, the migration sometimes failed and the migrated virtual machine was powered off. In this release, post-copy migrations are maintained to completion.

BZ#1692592

Previously, items with number ten and higher on the BIOS boot menu were not assigned sequential indexes. This made it difficult to select those items. The current release fixes this issue. Now, items ten and higher are assigned letter indexes. Users can select those items by entering the corresponding letter.

BZ#1693628

Previously, the state of the user session was not saved correctly in the Engine database, causing many unnecessary database updates to be performed. The current release fixes this issue: Now, the user session state is saved correctly on the first update.

BZ#1693813

Previously, if you updated the Data Center (DC) level, and the DC had a VM with a lower custom compatibility level than the DC's level, the VM could not resume due to a "not supported custom compatibility version." The current release fixes this issue: It validates the DC before upgrading the DC level. If the validation finds VMs with old custom compatibility levels, it does not upgrade the DC level: Instead, it displays "Cannot update Data Center compatibility version. Please resume/power off the following VMs before updating the Data Center."

BZ#1696313

Before this update, some architecture-specific dependencies of VDSM were moved to safelease in order to keep VDSM architecture-agnostic. With this update, those dependencies have been returned to VDSM and removed from safelease.

BZ#1698102

Previously, engine-setup did not provide enough information about configuring ovirt-provider-ovn. The current release fixes this issue by providing more information in the engine-setup prompt and documentation that helps users understand their choice and follow up actions.

BZ#1700623

Previously, moving a disk resulted in the wrong SIZE/CAP key in the volume metadata. This happened because creating a volume that had a parent overwrote the size of the newly-created volume with the parent size. As a result, the volume metadata contained the wrong volume size value. The current release fixes this issue, so the volume metadata contains the correct value.

BZ#1703112

In some scenarios, the PCI address of a hotplugged SR-IOV vNIC was overwritten by an empty value, and as a result, the NIC name in the virtual machine was changed following a reboot. In this release, the vNIC PCI address is stored in the database and the NIC name persists following a virtual machine reboot.

BZ#1703428

Previously, when importing a KVM into Red Hat Virtualization, "Hardware Clock Time Offset" was not set. As a result, the Manager machine did not recognize the guest agent installed in the virtual machine. In this release, the Manager machine recognizes the guest agent on a virtual machine imported from KVM, and the "Hardware Clock Time Offset" won't be null.

BZ#1707225

Before this update, there was no way to backup and restore the Cinderlib database. With this update, the engine-backup command includes the Cinderlib database.

For example, to backup the engine including the Cinderlib database:

```
# engine-backup --scope=all --mode=backup --file=cinderlib_from_old_engine --  
log=log_cinderlib_from_old_engine
```

To restore this same database:

```
# engine-backup --mode=restore --file=/root/cinderlib_from_old_engine --  
log=/root/log_cinderlib_from_old_engine --provision-all-databases --restore-permissions
```

BZ#1711902

In a Red Hat Virtualization (RHV) environment with VDSM version 4.3 and Manager version 4.1, the DiskTypes are parsed as int values. However, in an RHV environment with Manager version > 4.1, the DiskTypes are parsed as strings. That compatibility mismatch produced an error: "VDSM error: Invalid parameter: 'DiskType=2'". The current release fixes this issue by changing the string value back to an int, so the operation succeeds with no error.

BZ#1713724

Previously, converting a storage domain to the V5 format failed when, following an unsuccessful delete volume operation, partly-deleted volumes with cleared metadata remained in the storage domain. The current release fixes this issue. Converting a storage domain succeeds even when partly-deleted volumes with cleared metadata remain in the storage domain.

BZ#1714528

Previously, some HTML elements in Cluster Upgrade dialog had missing or duplicated IDs, which impaired automated UI testing. The current release fixes this issue. It provides missing IDs and removes duplicates to improve automated UI testing.

BZ#1715393

Previously, if you changed a virtual machine's **BIOS Type** chipset from one of the **Q35** options to **Cluster default** or visa versa while **USB Policy** or **USB Support** was **Enabled**, the change did not update the USB controller to the correct setting. The current release fixes this issue. The same actions update the USB controller correctly.

BZ#1717390

Previously, if you hot-unplugged a virtual machine interface shortly after booting the virtual machine, the unplugging action failed with an error. When this happened, it was because VM monitoring did not report the alias of the interface soon enough; and VDSM could not identify the vNIC to unplug. The

current release fixes this issue: If the alias is missing during hot unplug, the Engine generates one on the fly.

BZ#1718141

Previously, the `python3-ovirt-engine-sdk4` package did not include the `all_content` attribute of the `HostNicService` and `HostNicsService`. As a result, this attribute was effectively unavailable to `python3-ovirt-engine-sdk4` users. The current release fixes this issue by adding the `all_content` parameter to the `python3-ovirt-engine-sdk4`.

BZ#1719990

Previously, when creating a virtual machine with the French language selected, the Administration Portal did not accept the memory size using the French abbreviation `Mo` instead of `MB`. After setting the value with the `Mo` suffix, the value was reset to zero. With this update, the value is parsed correctly and the value remains as entered.

BZ#1720747

Previously, if `ovirt-ha-broker` restarted while the RHV Manager (engine) was querying the status of the self-hosted engine cluster, the query could get stuck. If that happened, the most straightforward workaround was to restart the RHV Manager.

This happened because the RHV Manager periodically checked the status of the self-hosted engine cluster by querying the VDSM daemon on the cluster host. With each query, VDSM checked the status of the `ovirt-ha-broker` daemon over a Unix Domain Socket. The communication between VDSM and `ovirt-ha-broker` wasn't enforcing a timeout. If `ovirt-ha-broker` was restarting, such as trying to recover from a storage issue, the VDSM request could get lost, causing VDSM and the RHV Manager to wait indefinitely.

The current release fixes this issue. It enforces a timeout in the communication channel between the VDSM and `ovirt-ha-broker`. If `ovirt-ha-broker` cannot reply to VDSM within a certain timeout, VDSM reports a self-hosted engine error to the RHV Manager.

BZ#1720795

Previously, the Manager searched for guest tools only on ISO domains, not data domains. The current release fixes this issue: Now, if the Manager detects a new tool on data domains or ISO domains, it displays a mark for the Windows VM.

BZ#1721804

Before this update `libvirt` did not support launching virtual machines with names ending with a period, even though the Manager did. This prevented launching virtual machines with names ending with a period. With this update, the Administration Portal and the REST API now prevent ending the name of a virtual machine with a period, resolving the issue.

BZ#1722854

Previously, while VDSM was starting, the definition of the network filter `vdsmd-no-mac-spoofing` was removed and recreated to ensure the filter was up to date. This occasionally resulted in a timeout during the start of VDSM. The current release fixes this issue. Instead of removing and recreating of the filter, the `vdsmd-no-mac-spoofing` filter is updated during the start of the VDSM. This update takes less than a second, regardless of the number of vNICs using this filter.

BZ#1723668

Previously, during virtual machine shut down, the VDSM command Get Host Statistics occasionally failed with an Internal JSON-RPC error **{'reason': '[Errno 19] vnet<x> is not present in the system'}**. This failure happened because the shutdown could make an interface disappear while statistics were being gathered. The current release fixes this issue. It prevents such failures from being reported.

BZ#1724002

Previously, cloud-init could not be used on hosts with FIPS enabled. With this update, cloud-init can be used on hosts with FIPS enabled.

BZ#1724959

Previously, the About dialog in the VM Portal provided a link to GitHub for reporting issues. However, RHV customers should use the Customer Portal to report issues. The current release fixes this issue. Now, the About dialog provides a link to the Red Hat Customer Portal.

BZ#1728472

Previously, the RHV Manager reported network out of sync because the Linux kernel applied the default gateway IPv6 router advertisements, and the IPv6 routing table was not configured by RHV. The current release fixes this issue. The IPv6 routing table is configured by RHV. NetworkManager manages the default gateway IPv6 router advertisements.

BZ#1729511

During installation or upgrade to Red Hat Virtualization 4.3, engine-setup failed if the PKI Organization Name in the CA certificate included non-ASCII characters. In this release, the upgrade engine-setup process completes successfully.

BZ#1729811

Previously, the guest_cur_user_name of the vm_dynamic database table was limited to 255 characters, not enough for more than approximately 100 user names. As a result, when too many users logged in, updating the table failed with an error. The current release fixes this issue by changing the field type from VARCHAR(255) to TEXT.

BZ#1730264

Previously, enabling port mirroring on networks whose user-visible name was longer than 15 characters failed. This happened because port mirroring tried to use this long user-visible network name, which was not a valid network name. The current release fixes this issue. Now, instead of the user-visible name, port mirroring uses the VDSM network name. Therefore, you can enable port mirroring for networks whose user-visible name is longer than 15 characters.

BZ#1731212

Previously, the RHV landing page did not support scrolling. With lower screen resolutions, some users could not use the log in menu option for the Administration Portal or VM Portal. The current release fixes this issue by migrating the landing and login pages to PatternFly 4, which displays horizontal and vertical scroll bars when needed. Users can access the entire screen regardless of their screen resolution or zoom setting.

BZ#1731590

Before this update, previewing a snapshot of a virtual machine, where the snapshot of one or more of the machine's disks did not exist or had no image with active set to "true", caused a null pointer exception to appear in the logs, and the virtual machine remained locked. With this update, before a

snapshot preview occurs, a database query checks for any damaged images in the set of virtual machine images. If the query finds a damaged image, the preview operation is blocked. After you fix the damaged image, the preview operation should work.

BZ#1733227

Previously, an issue with the Next button on External Provider Imports prevented users from importing virtual machines (VMs) from external providers such as VMware. The current release fixes this issue and users can import virtual machines from external providers.

BZ#1733843

Previously, exporting a virtual machine (VM) to an Open Virtual Appliance (OVA) file archive failed if the VM was running on the Host performing the export operation. The export process failed because doing so created a virtual machine snapshot, and while the image was in use, the RHV Manager could not tear down the virtual machine. The current release fixes this issue. If the VM is running, the RHV Manager skips tearing down the image. Exporting the OVA of a running VM succeeds.

BZ#1737234

Previously, if you sent the RHV Manager an API command to attach a non-existing ISO to a VM, it attached an empty CD or left an existing one intact. The current release fixes this issue. Now, the Manager checks if the specified ISO exists, and throws an error if it doesn't.

BZ#1739377

Previously, creating a snapshot did not correctly save the Cloud-Init/Sysprep settings for the guest OS. If you tried to clone a virtual machine from the snapshot, it did not have valid values to initialize the guest OS. The current release fixes this issue. Now, creating a snapshot correctly saves the the Cloud-Init/Sysprep configuration for the guest OS.

BZ#1741792

Previously, using LUKS alone was a problem because the RHV Manager could reboot a node using Power Management commands. However, the node would not reboot because it was waiting for the user to enter a decrypt/open/unlock passphrase. This release fixes the issue by adding clevis RPMs to the Red Hat Virtualization Host (RHVH) image. As a result, a Manager can automatically unlock/decrypt/open an RHVH using TPM or NBDE.

BZ#1743269

Previously, upgrading RHV from version 4.2 to 4.3 made the 10-setup-ovirt-provider-ovn.conf file world-readable. The current release fixes this issue, so the file has no unnecessary permissions.

BZ#1743296

Before this update, selecting templates or virtual machines did not display the proper details when templates or virtual machines with the same name were saved in different Data Centers, because the machine's name, instead of its GUID, was used to fetch the machine's details. With this update, the query uses the virtual machine's GUID, and the correct details are displayed.

BZ#1745384

Previously, trying to update the IPv6 gateway in the Setup Networks dialog removed it from the network attachment. The current release fixes this issue: You can update the IPv6 gateway if the related network has the default route role.

BZ#1746699

Before this update, copying disks created by virt-v2v failed with an Invalid Parameter Exception, Invalid parameter: 'DiskType=1'. With this release, copying disks succeeds.

BZ#1746700

The ovirt-host-deploy package uses otopi. Previously, otopi could not handle non-ASCII text in /root/.ssh/authorized_keys and failed with an error: 'ascii' codec can't decode byte 0xc3 in position 25: ordinal not in range(128). The new release fixes this issue by adding support for Unicode characters to otopi.

BZ#1749347

Previously, systemd units from failed conversions were not removed from the host. These could cause collisions and prevent subsequent conversions from starting because the service name was already "in use." The current release fixes this issue. If the conversion fails, the units are explicitly removed so they cannot interfere with subsequent conversions.

BZ#1749630

Previously, the Administration Portal showed very high memory usage for a host with no virtual machines running because it was not counting slab reclaimable memory. As a result, virtual machines could not be migrated to that host. The current release fixes that issue. The free host memory is evaluated correctly.

BZ#1750212

Previously, when you tried to delete the snapshot of a virtual machine with a LUN disk, RHV parsed its image ID incorrectly and used "mapper" as its value. This issue produced a null pointer error (NPE) and made the deletion fail. The current release fixes this issue, so the image ID parses correctly and the deletion succeeds.

BZ#1750482

Previously, when you used the VM Portal to configure a virtual machine (VM) to use Windows OS, it failed with the error, "Invalid time zone for given OS type." This happened because the VM's timezone for Windows OS was not set properly. The current release fixes this issue. If the time zone in the VM template or VM is not compatible with the VM OS, it uses the default time zone. For Windows, this default is "GMT Standard Time". For other OSs, it is "Etc/GMT". Now, you can use the VM Portal to configure a VM to use Windows OS.

BZ#1751215

Previously, after upgrading to RHV version 4.1 to 4.3, the Graphical Console for the self-hosted engine virtual machine was locked because the default display in version 4.1 is VGA. The current release fixes this issue. While upgrading to version 4.3, it changes the default display to VNC. As a result, the Graphical Console for the Hosted-Engine virtual machine is changeable.

BZ#1754363

With this release, the number of DNS configuration SQL queries that the Red Hat Virtualization Manager runs is significantly reduced, which improves the Manager's ability to scale.

BZ#1756244

Previously, in an IPv4-only host with a .local FQDN, the deployment kept looping searching for an

available IPv6 prefix until it failed. This was because the hosted-engine setup picked a link-local IP address for the host. The hosted-engine setup could not ensure that the Engine and the host are on the same subnet when one of them used a link-local address. The Engine must not use on a link-local address to be reachable through a routed network. The current release fixes this issue: Even if the hostname is resolved to a link-local IP address, the hosted-engine setup ignores the link-local IP addresses and tries to use another IP address as the address for the host. The hosted-engine can deploy on hosts, even if the hostname is resolved to a link-local address.

BZ#1759388

Previously, ExecStopPost was present in the VDSM service file. This meant that, after stopping VDSM, some of its child processes could continue and, in some cases, lead to data corruption. The current release fixes this issue. It removes ExecStopPost from the VDSM service. As a result, terminating VDSM also stops its child processes.

BZ#1763084

Previously, some migrations failed because of invalid host certificates whose Common Name (CN) contained an IP address, and because using the CN for hostname matching is obsolete. The current release fixes this issue by filling-in the Subject Alternative Name (SAN) during host installation, host upgrade, and certificate enrolment. Periodic certificate validation includes the SAN field and raises an error if it is not filled.

BZ#1764943

Previously, while creating virtual machine snapshots, if the VDSM's command to freeze a virtual machines' file systems exceeded the snapshot command's 3-minute timeout period, creating snapshots failed, causing virtual machines and disks to lock.

The current release adds two key-value pairs to the engine configuration. You can configure these using the engine-config tool:

- Setting **LiveSnapshotPerformFreezeInEngine** to **true** enables the Manager to freeze VMs' file systems before it creates a snapshot of them.
- Setting **LiveSnapshotAllowInconsistent** to **true** enables the Manager to continue creating snapshots if it fails to freeze VMs' file systems.

BZ#1769339

Previously, extending a floating QCOW disk did not work because the user interface and REST API ignored the getNewSize parameter. The current release fixes this issue and validates the settings so you can extend a floating QCOW disk.

BZ#1769463

Previously, in a large environment, the oVirt's REST API's response to a request for the cluster list was slow: This slowness was caused by processing a lot of surplus data from the engine database about out-of-sync hosts on the cluster which eventually was not included in the response. The current release fixes this issue. The query excludes the surplus data, and the API responds quickly.

BZ#1770237

Previously, the virtual machine (VM) instance type edit and create dialog displayed a vNIC profile editor. This item gave users the impression they could associate a vNIC profile with an instance type, which is not valid. The current release fixes this issue by removing the vNIC profile editor from the instance edit and create dialog.

BZ#1770889

Previously, VDSM did not send the Host.getStats message: It did not convert the description field of the Host.getStats message to utf-8, which caused the JSON layer to fail. The current release fixes this issue. It converts the description field to utf-8 so that VDSM can send the Host.getStats message.

BZ#1775248

Previously, issues with aliases for USB, channel, and PCI devices generated WARN and ERROR messages in engine.log when you started virtual machines.

RHV Manager omitted the GUID from the alias of the USB controller device. This information is required later to correlate the alias with the database instance of the USB device. As a result, duplicate devices were being created. Separately, channel and PCI devices whose aliases did not contain GUIDs also threw exceptions and caused warnings.

The current release fixes these issues. It removes code that was prevented the USB controller device from sending the correct alias when launching the VM. The GUID is added to the USB controller devices' aliases within the domain XML. It also filters channel and PCI controllers from the GUID conversion code to avoid printing exception warnings for these devices.

BZ#1777954

Previously, for the list of virtual machine templates in the Administration Portal, a paging bug hid every other page, and the templates on those pages, from view. The current release fixes this issue and displays every page of templates correctly.

BZ#1781095

Before this update, the engine-cleanup command enabled you to do a partial cleanup by prompting you to select which components to remove, even though partial cleanup is not supported. This resulted in a broken system. With this update, the prompt no longer appears and only full cleanup is possible.

BZ#1783180

Previously, a problem with AMD EPYC CPUs that were missing the virt-ssbd CPU flag prevented Hosted Engine installation. The current release fixes this issue.

BZ#1783337

Previously, the rename tool did not renew the **websocketproxy** certificates and did not update the value of **WebSocketProxy** in the engine configuration. This caused issues such as the VNC browser console not being able to connect to the server. The current release fixes this issue. Now, **ovirt-engine-rename** handles the websocket proxy correctly. It regenerates the certificate, restarts the service, and updates the value of **WebSocketProxy**.

BZ#1783815

Previously, if a virtual machine (VM) was forcibly shut down by SIGTERM, in some cases the VDSM did not handle the libvirt shutdown event that contained information about why the VM was shut down and evaluated it as if the guest had initiated a clean shutdown. The current release fixes this issue: VDSM handles the shutdown event, and the Manager restarts the high-availability VMs as expected.

BZ#1784049

Previously, if you ran a virtual machine (VMs) with an old operating system such as RHEL 6 and the BIOS Type was a Q35 Chipset, it caused a kernel panic. The current release fixes this issue. If a VM has an old

operating system and the BIOS Type is a Q35 Chipset, it uses the VirtIO-transitional model for some devices, which enables the VM to run normally.

BZ#1784398

Previously, because of a UI regression bug in the Administration Portal, you could not add system permissions to a user. For example, clicking **Add System Permissions**, selecting a **Role to assign**, and clicking **OK** did not work. The current release fixes so you can add system permissions to a user.

BZ#1785364

Previously, when restoring a backup, engine-setup did not restart ovn-northd, so the ssl/tls configuration was outdated. With this update, the restored ssl/tls ovn-northd reloads the restored ssl/tls configuration.

BZ#1785615

Previously, trying to mount an ISO domain (File → Change CD) within the Console generated a "Failed to perform 'Change CD' operation" error due to the deprecation of REST API v3. The current release fixes this issue: It upgrades Remote Viewer to use REST API v4 so mounting an ISO domain within the console works.

BZ#1788424

Previously, if you disabled the virtio-scsi drive and imported the virtual machine that had a direct LUN attached, the import validation failed with a "Cannot import VM. VirtIO-SCSI is disabled for the VM" error. This happened because the validation tried to verify that the virtio-scsi drive was still attached to the VM. The current release fixes this issue. If the Disk Interface Type is not virtio-scsi, the validation does not search for the virtio-scsi drive. Disk Interface Type uses an alternative driver, and the validation passes.

BZ#1788783

Previously, when migrating a virtual machine, information about the running guest agent was not always passed to the destination host. In these cases, the migrated virtual machine on the destination host did not receive an after_migration life cycle event notification. This update fixes this issue. The after_migration notification works as expected now.

BZ#1793481

Before this update, you could enable a raw format disk for incremental backup from the Administration Portal or using the REST API, but because incremental backup does not support raw format disks, the backup failed.

With this update, you can only enable incremental backup for QCOW2 format disks, preventing inclusion of raw format disks.

BZ#1795886

Before this update, validation succeeded for an incremental backup operation that included raw format disks, even though incremental backup does not support raw format disks. With this update, validation succeeds for a full backup operation for a virtual machine with a raw format disk, but validation fails for an incremental backup operation for a virtual machine with a raw format disk.

BZ#1796811

The `apache-sshd` library is not bundled anymore in the `rhvm-dependencies` package. The `apache-sshd` library is now packaged in its own rpm package.

BZ#1798175

Previously, due to a regression, KVM Importing failed and threw exceptions. This was due to a missing `readinto` function on the `StreamAdapter`. The current release fixes this issue so that KVM importing works.

BZ#1798425

Previously, importing virtual machines failed when the source version variable was null. With this update, validation of the source compatibility version is removed, enabling the import to succeed even when the source version variable is null.

BZ#1801205

Previously, VM Pools set to HA could no be run. VM Pools are stateless. Nonetheless, a user could set a VM in a Pool as supporting HA, but then the VM could not be launched. The current release fixes this issue: It disables the HA checkbox so that the user can no longer set VM Pools to support HA. As a result, the user can no longer set a VM Pool to support HA.

BZ#1806276

Previously, the **ovirt-provider-ovn** network provider was non-functional on RHV 4.3.9 Hosted-Engine. This happened because, with FDP 20.A (bug 1791388), the OVS/OVN service no longer had the permissions to read the private SSL/TLS key file. The current release fixes this issue: It updates the private SSL/TLS key file permissions. OVS/OVN reads the key file and works as expected.

BZ#1807937

Previously, if running a virtual machine with its Run Once configuration failed, the RHV Manager would try to run the virtual machine with its standard configuration on a different host. The current release fixes this issue. Now, if Run Once fails, the RHV Manager tries to run the virtual machine with its Run Once configuration on a different host.

BZ#1808788

Previously, trying to run a VM failed with an unsupported configuration error if its configuration did not specify a numa node. This happened because the domain xml was missing its numa node section, and VMs require at least one numa node to run. The current release fixes this issue: If the user has not specified any numa nodes, the VM generates a numa node section. As a result, a VM where numa nodes were not specified launches regardless of how many offline CPUs are available.

BZ#1809875

Before this update, a problem in the per Data-Center loop collecting images information caused incomplete data for analysis for all but the last Data-Center collected. With this update, the information is properly collected for all Data-Centers, resolving the issue.

BZ#1810893

Previously, using the Administration Portal to import a storage domain omitted custom mount options for NFS storage servers. The current release fixes this issue by including the custom mount options.

BZ#1812875

Previously, when the Administration Portal was configured to use French language, the user could not

create virtual machines. This was caused by French translations that were missing from the user interface. The current release fixes this issue. It provides the missing translations. Users can configure and create virtual machines while the Administration Portal is configured to use the French language.

BZ#1813028

Previously, if you exported a virtual machine (VM) as an Open Virtual Appliance (OVA) file from a host that was missing a loop device, and imported the OVA elsewhere, the resulting VM had an empty disk (no OS) and could not run. This was caused by a timing and permissions issue related to the missing loop device. The current release fixes the timing and permission issues. As a result, the VM to OVA export includes the guest OS. Now, when you create a VM from the OVA, the VM can run.

BZ#1816327

Previously, if you tried to start an already-running virtual machine (VM) on the same host, VDSM failed this operation too late and the VM on the host became hidden from the RHV Manager. The current release fixes the issue: VDSM immediately rejects attempts to start a running VM on the same host.

BZ#1816777

Previously, when initiating the console from the VM portal to noVNC, the console didn't work due to a missing 'path' parameter when initiating the console. In this release, the 'path' is not mandatory, and the noVNC console can initiate even when 'path' isn't provided.

BZ#1819299

Previously when loading a memory snapshot, the RHV Manager did not load existing device IDs. Instead, it created new IDs for each device. The Manager was unable to correlate the IDs with the devices and treated them as though they were unplugged. The current release fixes this issue. Now, the Manager consumes the device IDs and correlates them with the devices.

BZ#1819960

Previously, if you used the update template script example of the ovirt-engine-sdk to import a virtual machine or template from an OVF configuration, it failed with a null-pointer exception (NPE). This happened because the script example did not supply the Storage Pool Id and Source Storage Domain Id. The current release fixes this issue. Now, the script gets the correct ID values from the image, so importing a template succeeds.

BZ#1820140

Previously, with RHV Manager running as a self-hosted engine, the user could hotplug memory on the self-hosted engine virtual machine and exceed the physical memory of the host. In that case, restarting the virtual machine failed due to insufficient memory. The current release fixes this issue. It prevents the user from setting the self-hosted engine virtual machine's memory to exceed the active host's physical memory. You can only save configurations where the self-hosted engine virtual machine's memory is less than the active host's physical memory.

BZ#1821164

While the RHV Manager is creating a virtual machine (VM) snapshot, it can time out and fail while trying to freeze the file system. If this happens, more than one VM can write data to the same logical volume and corrupt the data on it. In the current release, you can prevent this condition by configuring the Manager to freeze the VM's guest filesystems before creating a snapshot. To enable this behavior, run the engine-configuration tool and set the **LiveSnapshotPerformFreezeInEngine** key-value pair to **true**.

BZ#1822479

Previously, when redeploying the RHV Manager as a hosted engine after cleanup, the `libvirtd` service failed to start. This happened because the `libvirtd-tls.socket` service was active. The current release fixes this issue. Now, when you run the `ovirt-hosted-engine-cleanup` tool, it stops the `libvirtd-tls.socket` service. The `libvirtd` service starts when you redeploy RHV Manager as a hosted engine.

BZ#1826248

Previously, the 'Host console SSO' feature did not work with python3, which is the default python on RHEL 8. The code was initially written for Python2 and was not properly modified for Python3. The current release fixes this issue: The 'Host console SSO' feature works with Python3.

BZ#1830730

Previously, if the DNS query test timed out, it did not produce a log message. The current release fixes this issue: If a DNS query times out, it produces a "DNS query failed" message in the `broker.log`.

BZ#1832905

In previous versions, `engine-backup --mode=verify` passed even if `pg_restore` emitted errors. The current release fixes this issue. The `engine-backup --mode=verify` command correctly fails if `pg_restore` emits errors.

BZ#1834523

Previously, adding or removing a smart card to a running virtual machine did not work. The current release fixes this issue. When you add or remove a smart card, it saves this change to the virtual machine's next run configuration. In the Administration Portal, the virtual machine indicates that a next run configuration exists, and lists "Smartcard" as a changed field. When you restart the virtual machine, it applies the new configuration to the virtual machine.

BZ#1834873

Previously, retrieving host capabilities failed for specific non-NUMA CPU topologies. The current release fixes this issue and correctly reports the host capabilities for those topologies.

BZ#1835096

Previously, if creating a live snapshot failed because of a storage error, the RHV Manager would incorrectly report that it had been successful. The current release fixes this issue. Now, if creating a snapshot fails, the Manager correctly shows that it failed.

BZ#1836609

Previously, the `slot` parameter was parsed as a string, causing disk rollback to fail during the creation of a virtual machine from a template when using an Ansible script. Note that there was no such failure when using the Administration Portal to create a virtual machine from a template. With this update, the `slot` parameter is parsed as an int, so disk rollback and virtual machine creation succeed.

BZ#1837266

Previously, if you backed up RHV Manager running as a self-hosted engine in RHV version 4.3, restoring it in RHV version 4.4 failed with particular CPU configurations. The current release fixes this issue. Now, restoring the RHV Manager with those CPU configurations succeeds.

BZ#1838439

Previously, in the beta version of RHV 4.4, after adding a host to a cluster with compatibility version 4.2, editing the cluster reset its **BIOS Type** from the previous automatically detected value to **Cluster default**. As a result, virtual machines could not run because a **Chip Set** does not exist for **Cluster Default**. The current release fixes this issue. It preserves the original value of **BIOS Type** and prevents it from being modified when you edit the cluster. As a result, you can create and run virtual machines normally after editing cluster properties.

BZ#1838493

Previously, creating a live snapshot with memory while `LiveSnapshotPerformFreezeInEngine` was set to `True`, resulted in a virtual machine file system that is frozen when previewing or committing the snapshot with memory restore. In this release, the virtual machine runs successfully after creating a preview snapshot from a memory snapshot.

BZ#1839967

Previously, running **ovirt-engine-rename** generated errors and failed because Python 3 renamed **urlparse** to **urllib.parse**. The current release fixes this issue. Now, **ovirt-engine-rename** uses **urllib.parse** and runs successfully.

BZ#1842260

Previously, suppose you were trying to send metrics and logs to Elasticsearch that was not on OCP: You could not set **usehttps** to **false** while also not using Elasticsearch certificates (**use_omelasticsearch_cert: false**). As a result, you could not send data to Elasticsearch without https. The current release fixes this issue. Now, you can set the variable "usehttps" as expected and send data to Elasticsearch without https.

BZ#1843089

Before this release, local storage pools were created but were not deleted during Self-Hosted Engine deployment, causing storage pool leftovers to remain. In this release, the cleanup is performed properly following Self-Hosted Engine deployment, and there are no storage pool leftovers.

BZ#1845473

Previously, exporting a virtual machine or template to an OVA file incorrectly sets its format in the OVF metadata file to "RAW". This issue causes problems using the OVA file. The current release fixes this issue. Exporting to OVA sets the format in the OVF metadata file to "COW", which represents the disk's actual format, qcow2.

BZ#1847513

When you change the cluster compatibility version, it can also update the compatibility version of the virtual machines. If the update fails, it rolls back the changes. Previously, chipsets and emulated machines were not part of the cluster update. The current release fixes this issue. Now, you can also update chipsets and emulator machines when you update the cluster compatibility version.

BZ#1849275

Previously, if the block path was unavailable for a storage block device on a host, the RHV Manager could not process host devices from that host. The current release fixes this issue. The Manager can process host devices even though a block path is missing.

BZ#1850117

Previously, the `hosted-engine --set-shared-config storage`` command failed to update the hosted engine storage. With this update, the command works.

BZ#1850220

Old virtual machines that have not been restarted since user aliases were introduced in RHV version 4.2 use old device aliases created by libvirt. The current release adds support for those old device aliases and links them to the new user-aliases to prevent correlation issues and devices being unplugged.

6.12.2. Enhancements

This release of Red Hat Virtualization features the following enhancements:

BZ#854932

The REST API in the current release adds the following updatable disk properties for floating disks:

- For Image disks: `provisioned_size`, `alias`, `description`, `wipe_after_delete`, `shareable`, `backup`, and `disk_profile`.
- For LUN disks: `alias`, `description` and `shareable`.
- For Cinder and Managed Block disks: `provisioned_size`, `alias`, and `description`.

See [Services](#).

BZ#1080097

In this release, it is now possible to edit the properties of a Floating Disk in the **Storage > Disks** tab of the Administration Portal. For example, the user can edit the **Description**, **Alias**, and **Size** of the disk.

BZ#1107803

With this enhancement, oVirt uses NetworkManager and NetworkManager Stateful Configuration (nmstate) to configure host networking. The previous implementation used network-scripts, which are deprecated in CentOS 8. This usage of NetworkManager helps to share code with software components. As a result, oVirt integrates better with RHEL-based software. Now, for example, the Cockpit web interface can see the host networking configuration, and oVirt can read the network configuration created by the Anaconda installer.

BZ#1179273

The VDSM's **ssl_protocol**, **ssl_excludes**, and **ssl_ciphers** config options have been removed. For details, see: [Consistent security by crypto policies in Red Hat Enterprise Linux 8](#) .

To fine-tune your crypto settings, change or create your crypto policy. For example, for your hosts to communicate with legacy systems that still use insecure TLSv1 or TLSv1.1, change your crypto policy to **LEGACY** with:

```
# update-crypto-policies --set LEGACY
```

BZ#1306586

The floppy device has been replaced by a CDROM device for sysprep installation of Compatibility Versions 4.4 and later.

BZ#1325468

After a high-availability virtual machine (HA VM) crashes, the RHV Manager tries to restart it indefinitely. At first, with a short delay between restarts. After a specified number of failed retries, the delay is longer.

Also, the Manager starts crashed HA VMs in order of priority, delaying lower-priority VMs until higher-priority VMs are 'Up.'

The current release adds new configuration options:

- **RetryToRunAutoStartVmShortIntervallInSeconds**, the short delay, in seconds. The default value is **30**.
- **RetryToRunAutoStartVmLongIntervallInSeconds**, the long delay, in seconds. The default value is **1800**, which equals 30 minutes.
- **NumOfTriesToRunFailedAutoStartVmInShortIntervals**, the number of restart tries with short delays before switching to long delays. The default value is **10** tries.
- **MaxTimeAutoStartBlockedOnPriority**, the maximum time, in minutes, before starting a lower-priority VM. The default value is **10** minutes.

BZ#1358501

Network operations that span multiple hosts may take a long time. This enhancement shows you when these operations finish: It records start and end events in the Events Tab of the Administration Portal and engine.log. If you use the Administration Portal to trigger the network operation, the portal also displays a pop-up notification when the operation is complete.

BZ#1388599

In the default virtual machine template, the current release changes the default setting for "VM Type" to "server." Previously, it was "desktop."

BZ#1403677

With this update, you can connect to a Gluster storage network over IPv6, without the need for IPv4.

BZ#1427717

The current release adds the ability for you to select affinity groups while creating or editing a virtual machine (VM) or host. Previously, you could only add a VM or host by editing an affinity group.

BZ#1450351

With this update, you can set the reason for shutting down or powering off a virtual machine when using a REST API request to execute the shutdown or power-off.

BZ#1455465

In this release, the default "optimized for" value optimization type for bundled templates is now set to "Server".

BZ#1475774

Previously, when creating/managing an iSCSI storage domain, there was no indication that the operation may take a long time. In this release, the following message has been added: "Loading... A large number of LUNs may slow down the operation."

BZ#1477049

With this update, unmanaged networks are viewable by the user on the host NICs page at a glance. Each NIC indicates whether one of its networks is unmanaged by oVirt engine. Previously, to view this indication, the user had to open the setup dialog, which was cumbersome.

BZ#1482465

With this update, when viewing clusters, you can sort by the Cluster CPU Type and Compatibility Version columns.

BZ#1512838

The current release adds a new capability: In the "Edit Template" window, you can use the "Sealed" checkbox to indicate whether a template is sealed. The Compute > Templates window has a new "Sealed" column, which displays this information.

BZ#1523289

With this update, you can check the list of hosts that are not configured for metrics, that is, those hosts on which the Collectd and Rsyslog/Fluentd services are not running.

First, run the playbook 'manage-ovirt-metrics-services.yml' by entering:

```
# /usr/share/ovirt-engine-metrics/configure_ovirt_machines_for_metrics.sh --playbook=manage-ovirt-metrics-services.yml
```

Then, check the file **/etc/ovirt-engine-metrics/hosts_not_configured_for_metrics**.

BZ#1546838

The current release displays a new warning when you use 'localhost' as an FQDN: "[WARNING] Using the name 'localhost' is not recommended, and may cause problems later on."

BZ#1547937

This release adds a progress bar for the disk synchronization stage of Live Storage Migration.

BZ#1564280

This enhancement adds support for OVMF with SecureBoot, which enables UEFI support for Virtual Machines.

BZ#1572155

The current release adds the VM's current state and uptime to the Compute > Virtual Machine: General tab.

BZ#1574443

Previously, it was problematic to flip the host into the maintenance state while it was flipping between connecting and activating state. In this release, the host, regardless of its initial state before restart, will be put into maintenance mode after restarting the host using power management configuration.

BZ#1581417

All new clusters with x86 architecture and compatibility version 4.4 or higher now set the BIOS Type to the Q35 Chipset by default, instead of the i440FX chipset.

BZ#1593800

When creating a new MAC address pool, its ranges must not overlap with each other or with any ranges in existing MAC address pools.

BZ#1595536

When a host is running in FIPS mode, VNC must use SASL authorization instead of regular passwords because of a weak algorithm inherent to the VNC protocol. The current release facilitates using SASL by providing an Ansible role, `ovirt-host-setup-vnc-sasl`, which you can run manually on FIPS-enabled hosts. This role does the following:

- Creates an empty SASL password database.
- Prepares the SASL config file for qemu.
- Changes the libvirt config file for qemu.

BZ#1600059

Previously, when High Availability was selected for a new virtual machine, the Lease Storage Domain was set to a bootable Storage Domain automatically if the user did not already select one. In this release, a bootable Storage Domain is set as the lease Storage Domain for new High Availability virtual machines.

BZ#1602816

Previously, if you tried to deploy hosted-engine over a teaming device, it would try to proceed and then fail with an error. The current release fixes this issue. It filters out teaming devices. If only teaming devices are available, it rejects the deployment with a clear error message that describes the issue.

BZ#1603591

With this enhancement, while using cockpit or engine-setup to deploy RHV Manager as a Self-Hosted Engine, the options for specifying the NFS version include two additional versions, 4.0 and 4.2.

BZ#1622700

Previously, multipath repeatedly logged irrelevant errors for local devices. In this release, local devices are blacklisted and irrelevant errors are no longer logged.

BZ#1622946

With this update, the API reports extents information for sparse disks; which extents are data, read as zero, or unallocated (holes). This enhancement enables clients to use the imageio REST API to optimize image transfers and minimize storage requirements by skipping zero and unallocated extents.

BZ#1640192

Before this update, you could enable FIPS on a host. But because the engine was not aware of FIPS, it did not use the appropriate options with qemu when starting virtual machines, so the virtual machines were not fully operable.

With this update, you can enable FIPS for a host in the Administration Portal, and the engine uses qemu with FIPS-compatible arguments.

To enable FIPS for a host, in the Edit Host window, select the Kernel tab and check the FIPS mode checkbox.

BZ#1640908

Previously, if there were hundreds of Fiber Channel LUNs, the Administration Portal dialog box for adding or managing storage domains took too long to render and might become unresponsive. This enhancement improves performance: It displays a portion of the LUNs in a table and provides right and left arrows that users can click to see the next or previous set of LUNs. As a result, the window renders normally and remains responsive regardless of how many LUNs are present.

BZ#1641694

With this update, you can start the self-hosted engine virtual machine in a paused state. To do so, enter the following command:

```
# hosted-engine --vm-start-paused
```

To un-pause the virtual machine, enter the following command:

```
# hosted-engine --vm-start
```

BZ#1643886

This update adds support for Hyper V enlightenment for Windows virtual machines on hosts running RHEL 8.2 with cluster compatibility level set to 4.4. Specifically, Windows virtual machines now support the following Hyper V functionality:

- reset
- vpinde
- runtime
- frequencies
- reenlightenment
- tlbflush

BZ#1647440

The current release adds a new feature: On the VM list page, the tooltip for the VM type icon shows a list of the fields you have changed between the current and the next run of the virtual machine.

BZ#1651406

The current release enables you to migrate a group of virtual machines (VMs) that are in positive enforcing affinity with each other.

- You can use the new checkbox in the Migrate VM dialog to migrate this type of affinity group.
- You can use the following REST API to migrate this type of affinity group:
http://ovirt.github.io/ovirt-engine-api-model/4.4/#services/vm/methods/migrate/parameters/migrate_vms_in_affinity_closure.
- Putting a host into maintenance also migrates this type of affinity group.

BZ#1652565

In this release, it is now possible to edit the properties of a Floating Disk in the Storage > Disks tab of Administration Portal. For example, the user can edit the Description, Alias, and Size of the disk.

BZ#1666913

With this enhancement, if a network name contains spaces or is longer than 15 characters, the Administration Portal notifies you that the RHV Manager will rename the network using the host network's UUID as a basis for the new name.

BZ#1671876

Suppose a Host has a pair of bonded NICs using **(Mode 1) Active-Backup**. Previously, the user clicked **Refresh Capabilities** to get the current status of this bonded pair. In the current release, if the active NIC changes, it refreshes the state of the bond in the Administration Portal and REST API. You do not need to click **Refresh Capabilities**.

BZ#1674420

This update adds support for the following virtual CPU models:

- Intel Cascade Lake Server
- Intel Ivy Bridge

BZ#1679110

This enhancement moves the pop-up ("toast") notifications from the upper right corner to the lower right corner, so they no longer cover the action buttons. Now, the notifications rise from the bottom right corner to within 400 px of the top.

BZ#1679730

This update adds an audit log warning on an out-of-range IPv4 gateway static configuration for a host NIC. The validity of the gateway is assessed compared to the configured IP address and netmask. This gives users better feedback and helps them notice incorrect configurations.

BZ#1683108

This release adds a new 'status' column to the affinity group table that shows whether all of an affinity group's rules are satisfied (status = ok) or not (status = broken). The "Enforcing" option does not affect this status.

BZ#1687345

Previously, RHV Manager created live virtual machine snapshots synchronously. If creating the snapshot exceeded the timeout period (default 180 seconds), the operation failed. These failures tended to happen with virtual machines that had large memory loads or clusters that had slow storage speeds.

With this enhancement, the live snapshot operation is asynchronous and runs until it is complete, regardless of how long it takes.

BZ#1688796

With this update, a new configuration variable, **AAA_JAAS_ENABLE_DEBUG**, has been added to enable **Kerberos/GSSAPI** debug on **AAA**. The default value is **false**.

To enable debugging, create a new configuration file named **/etc/ovirt-engine/engine.conf.d/99-kerberos-debug.conf** with the following content:

AAA_JAAS_ENABLE_DEBUG=true**BZ#1691704**

Red Hat Virtualization Manager virtual machines now support ignition configuration, and this feature can be used via the UI or API by any guest OS that supports it, for example, RHCOS or FCOS.

BZ#1692709

With this update, each host's boot partition is explicitly stated in the kernel boot parameters. For example: **boot=/dev/sda1** or **boot=UUID=<id>**

BZ#1696245

Previously, while cloning a virtual machine, you could only edit the name of the virtual machine in the Clone Virtual Machine window. With this enhancement, you can fully customize any of the virtual machine settings in the Clone Virtual Machine window. This means, for example, that you can clone a virtual machine into a different storage domain.

BZ#1700021

Previously, if a Certificate Authority **ca.pem** file was not present, the engine-setup tool automatically regenerated all PKI files, requiring you to reinstall or re-enroll certificates for all hosts.

Now, if **ca.pem** is not present but other PKI files are, engine-setup prompts you to restore ca.pem from backup without regenerating all PKI files. If a backup is present and you select this option, then you no longer need to reinstall or re-enroll certificates for all hosts.

BZ#1700036

This enhancement adds support for DMTF Redfish to RHV. To use this functionality, you use the Administration Portal to edit a Host's properties. On the Host's **Power Management** tab, you click **+** to add a new power management device. In the **Edit fence agent** window, you set **Type** to **redfish** and fill-in additional details like login information and IP/FQDN of the agent.

BZ#1700338

This enhancement enables you to use the RHV Manager's REST API to manage subscriptions and receive notifications based on specific events. In previous versions, you could do this only in the Administration Portal.

BZ#1710491

With this enhancement, an **EVENT_ID** is logged when a virtual machine's guest operating system reboots. External systems such as Cloudforms and Manage IQ rely on the **EVENT_ID** log messages to keep track of the virtual machine's state.

BZ#1712890

With this update, when you upgrade RHV, engine-setup notifies you if virtual machines in the environment have snapshots whose cluster levels are incompatible with the RHV version you are upgrading to. It is safe to let it proceed, but it is not safe to use these snapshots after the upgrade. For example, it is not safe to preview these snapshots.

There is an exception to the above: engine-setup does not notify you if the virtual machine is running the Manager as a self-hosted engine. For hosted-engine, it provides an automatic "Yes" and upgrades the virtual machine without prompting or notifying you. It is unsafe to use snapshots of the hosted-

engine virtual machine after the upgrade.

BZ#1716590

With this enhancement, on the "System" tab of the "New Virtual Machine" and "Edit Virtual Machine" windows, the "Serial Number Policy" displays the value of the "Cluster default" setting. If you are adding or editing a VM and are deciding whether to override the cluster-level serial number policy, seeing that information here is convenient. Previously, to see the cluster's default serial number policy, you had to close the VM window and navigate to the Cluster window.

BZ#1718818

This enhancement enables you to attach a SCSI host device, **scsi_hostdev**, to a virtual machine and specify the optimal driver for the type of SCSI device:

- **scsi_generic**: (Default) Enables the guest operating system to access OS-supported SCSI host devices attached to the host. Use this driver for SCSI media changers that require raw access, such as tape or CD changers.
- **scsi_block**: Similar to **scsi_generic** but better speed and reliability. Use for SCSI disk devices. If trim or discard for the underlying device is desired, and it's a hard disk, use this driver.
- **scsi_hd**: Provides performance with lowered overhead. Supports large numbers of devices. Uses the standard SCSI device naming scheme. Can be used with aio-native. Use this driver for high-performance SSDs.
- **virtio_blk_pci**: Provides the highest performance without the SCSI overhead. Supports identifying devices by their serial numbers.

BZ#1726494

qemu-guest-agent for OpenSUSE guests has been updated to qemu-guest-agent-3.1.0-lp151.6.1 build.

BZ#1726907

With this update, you can select Red Hat CoreOS (RHCOS) as the operating system for a virtual machine. When you do so, the initialization type is set to **ignition**. RHCOS uses ignition to initialize the virtual machine, differentiating it from RHEL.

BZ#1731395

Previously, with every security update, a new CPU type was created in the vdc_options table under the key ServerCPUList in the database for all affected architectures. For example, the Intel Skylake Client Family included the following CPU types:

- Intel Skylake Client Family
- Intel Skylake Client IBRS Family
- Intel Skylake Client IBRS SSBD Family
- Intel Skylake Client IBRS SSBD MDS Family

With this update, only two CPU Types are now supported for any CPU microarchitecture that has security updates, keeping the CPU list manageable. For example:

- Intel Skylake Client Family

- Secure Intel Skylake Client Family

The default CPU type will not change. The Secure CPU type will contain the latest updates.

BZ#1732738

Modernizing the software stack of ovirt-engine for build and runtime using java-11-openjdk. Java 11 openjdk is the new LTS version from Red Hat.

BZ#1733031

To transfer virtual machines between data centers, you use data storage domains because export domains were deprecated. However, moving a data storage domain to a data center that has a higher compatibility level (DC level) can upgrade its storage format version, for example, from V3 to V5. This higher format version can prevent you from reattaching the data storage domain to the original data center and transferring additional virtual machines.

In the current release, if you encounter this situation, the Administration Portal asks you to confirm that you want to update the storage domain format, for example, from 'V3' to 'V5'. It also warns that you will not be able to attach it back to an older data center with a lower DC level.

To work around this issue, you can create a destination data center that has the same compatibility level as the source data center. When you finish transferring the virtual machines, you can increase the DC level.

BZ#1733932

With this update, you can remove an unregistered entity, such as a virtual machine, a template, or a disk, without importing it into the environment.

BZ#1734727

The current release updates the ovirt-engine-extension-logger-log4j package from OpenJDK version 8 to version 11 so it aligns with the oVirt engine.

BZ#1739557

With this update, you can enable encryption for live migration of virtual machines between hosts in the same cluster. This provides more protection to data transferred between hosts. You can enable or disable encryption in the Administration Portal, in the Edit Cluster dialog box, under Migration Policy > Additional Properties. Encryption is disabled by default.

BZ#1740644

The current release adds a configuration option, VdsmUseNmstate, which you can use to enable nmstate on every new host with cluster compatibility level ≥ 4.4 .

BZ#1740978

When a VM from the older compatibility version is imported, its configuration has to be updated to be compatible with the current cluster compatibility version. This enhancement adds a warning to the audit log that lists the updated parameters.

BZ#1745019

The current release adds support for running virtual machines on hosts that have an Intel Snow Ridge CPU. There are two ways to enable this capability:

- Enable a virtual machine's **Pass-Through Host CPU** setting and configure it to **Start Running On on Specific Host(s)** that have a Snow Ridge CPU.
- Set **cpuflags** in the virtual machine's custom properties to **+gfn,+cldeMOTE**.

BZ#1748097

In this release, it is now possible to edit the properties of a Floating Virtual Disk in the Storage > Disks tab of the Administration Portal. For example, the user can edit the Description, Alias, and Size of the disk. You can also update floating virtual disk properties using the REST API update put command described in the [Red Hat Virtualization REST API Guide](#).

BZ#1749284

Before this update, the live snapshot operation was synchronized, such that if VDSM required more than 180 seconds to create a snapshot, the operation failed, preventing snapshots of some virtual machines, such as those with large memory loads, or slow storage.

With this update, the live snapshot operation is asynchronous, so the operation runs until it ends successfully, regardless of how long it takes.

BZ#1751268

The current release adds a new **Insights** section to the RHV welcome or landing page. This section contains two links:

- "Insights Guide" links to the "Deploying Insights in Red Hat Virtualization Manager" topic in the Administration Guide.
- "Insights Dashboard" links to the [Red Hat Insights Dashboard](#) on the Customer Portal.

BZ#1752995

With this update, the default action in the VM Portal's dashboard for a running virtual machine is to open a console. Before this update, the default action was "Suspend".

Specifically, the default operation for a running VM is set to "SPICE Console" if the virtual machine supports SPICE, or "VNC Console" if the virtual machine only supports VNC.

For a virtual machine running in headless mode, the default action is still "Suspend".

BZ#1757320

This update provides packages required to run oVirt Node and oVirt CentOS Linux hosts based on CentOS Linux 8.

BZ#1758289

When you remove a host from the RHV Manager, it can create duplicate entries for a host-unreachable event in the RHV Manager database. Later, if you add the host back to the RHV Manager, these entries can cause networking issues. With this enhancement, if this type of event happens, the RHV Manager prints a message to the events tab and log. The message notifies users of the issue and explains how to avoid networking issues if they add the host back to RHV Manager.

BZ#1763812

The current release moves the button to **Remove** a virtual machine to the "more" menu (three dots in the upper-right area). This was done to improve usability: Too many users pressed the **Remove** button,

mistakenly believing it would remove a selected item in the details view, such as a snapshot. They did not realize it would delete the virtual machine. The new location should help users avoid this kind of mistake.

BZ#1764788

In this release, Ansible Runner is installed by default and allows running Ansible playbooks directly in the Red Hat Virtualization Manager.

BZ#1767319

In this release, modifying a MAC address pool or modifying the range of a MAC address pool that has any overlap with existing MAC address pool ranges, is strictly forbidden.

BZ#1768844

With this enhancement, when you add a host to a cluster, it has the advanced virtualization channel enabled, so the host uses the latest supported libvirt and qemu packages.

BZ#1768937

With this enhancement, the Administration Portal enables you to copy a host network configuration from one host to another by clicking a button. Copying network configurations this way is faster and easier than configuring each host separately.

BZ#1771977

On RHV-4.4, NetworkManager manages the interface and static routes. As a result, you can make more robust modifications to static routes using Network Manager Stateful Configuration (nmstate).

BZ#1777877

This release adds Grafana as a user interface and visualization tool for monitoring the Data Warehouse. You can install and configure Grafana during engine-setup. Grafana includes pre-built dashboards that present data from the **ovirt_engine_history** PostgreSQL data warehouse database.

BZ#1779580

The current release updates the **Documentation** section of the RHV welcome or landing page. This makes it is easier to access the current documentation and facilitate access to translated documentation in the future.

- The links now point to the online documentation on the Red Hat customer portal.
- The "Introduction to the Administration Portal" guide and "REST API v3 Guide" are now obsolete and have been removed.
- The rhvm-doc package is obsolete and has been removed.

BZ#1780943

Previously, a live snapshot of a virtual machine could take an infinite amount of time, locking the virtual machine. With this release, you can set a limit on the amount of time an asynchronous live snapshot can take using the command **engine-config -s LiveSnapshotTimeoutInMinutes=<time>** where **<time>** is a value in minutes. After the set time passes, the snapshot aborts, releasing the lock and enabling you to use the virtual machine. The default value of **<time>** is **30**.

BZ#1796809

The `apache-sshd` library is not bundled anymore in the `rhvm-dependencies` package. The `apache-sshd` library is now packaged in its own rpm package.

BZ#1798127

`apache-commons-collections4` has been packaged for Red Hat Virtualization Manager consumption. The package is an extension of the Java Collections Framework.

BZ#1798403

Previously, the Windows guest tools were delivered as virtual floppy disk (`.vfd`) files.

With this release, the virtual floppy disk is removed and the Windows guest tools are included as a virtual CD-ROM. To install the Windows guest tools, check the **Attach Windows guest tools CD** check box when installing a Windows virtual machine.

BZ#1806339

The current release changes the **Huge Pages** label to **Free Huge Pages** so it is easier to understand what the values represent.

BZ#1813831

This enhancement enables you to remove incremental backup root checkpoints.

Backing up a virtual machine (VM) creates a checkpoint in libvirt and the RHV Manager's database. In large scale environments, these backups can produce a high number of checkpoints. When you restart virtual machines, the Manager redefines their checkpoints on the host; if there are many checkpoints, this operation can degrade performance. The checkpoints' XML descriptions also consume a lot of storage.

This enhancement provides the following operations:

- View all the VM checkpoints using the new checkpoints service under the VM service - **GET `path-to-engine/api/vms/vm-uuid/checkpoints`**
- View a specific checkpoint - **GET `path-to-engine/api/vms/vm-uuid/checkpoints/checkpoint-uuid`**
- Remove the oldest (root) checkpoint from the chain - **DELETE `path-to-engine/api/vms/vm-uuid/checkpoints/checkpoint-uuid`**

BZ#1821487

Previously, network tests timed out after 2 seconds. The current release increases the timeout period from 2 seconds to 5 seconds. This reduces unnecessary timeouts when the network tests require more than 2 seconds to pass.

BZ#1821930

With this enhancement, RHEL 7-based hosts have SPICE encryption enabled during host deployment. Only TLSv1.2 and newer protocols are enabled. Available ciphers are limited as described in BZ1563271

RHEL 8-based hosts do not have SPICE encryption enabled. Instead, they rely on defined RHEL crypto policies (similar to VDSM BZ1179273).

BZ#1824117

The `usbutils` and `net-tools` packages have been added to the RHV-H optional channel. This eases the installation of "iDRAC Service Module" on Dell PowerEdge systems.

BZ#1831031

This enhancement increases the maximum memory limit for virtual machines to 6TB. This also applies to virtual machines with cluster level 4.3 in RHV 4.4.

BZ#1841083

With this update, the maximum memory size for 64-bit virtual machines based on `x86_64` or `ppc64/ppc64le` architectures is now 6 TB. This limit also applies to virtual machines based on `x86_64` architecture in 4.2 and 4.3 Cluster Levels.

BZ#1845017

Starting with this release, the Grafana dashboard for the Data Warehouse is installed by default to enable easy monitoring of Red Hat Virtualization metrics and logs. The Data Warehouse is installed by default at Basic scale resource use. To obtain the full benefits of Grafana, it is recommended to update the Data Warehouse scale to Full (to be able to view a larger data collection interval of up to 5 years). Full scaling may require migrating the Data Warehouse to a separate virtual machine. For Data Warehouse scaling instructions, see [Changing the Data Warehouse Sampling Scale](#)

For instructions on migrating to or installing on a separate machine, see [Migrating the Data Warehouse to a Separate Machine](#). and [Installing and Configuring Data Warehouse on a Separate Machine](#)

BZ#1848381

The current release adds a panel to the beginning of each Grafana dashboard describing the reports it displays and their purposes.

6.12.3. Rebase: Bug Fixes and Enhancements

These items are rebases of bug fixes and enhancements included in this release of Red Hat Virtualization:

BZ#1700867

The `amkeself` package has been rebased to version: 2.4.0. Highlights, important fixes, or notable enhancements:

- v2.3.0: Support for archive encryption via GPG or OpenSSL. Added LZO and LZ4 compression support. Options to set the packaging date and stop the `umask` from being overridden. Optionally ignore check for available disk space when extracting. New option to check for root permissions before extracting.
- v2.3.1: Various compatibility updates. Added unit tests for Travis CI in the GitHub repo. New `--tar-extra`, `--untar-extra`, `--gpg-extra`, `--gpg-asymmetric-encrypt-sign` options.
- v2.4.0: Added optional support for SHA256 archive integrity checksums.

BZ#1701530

Rebase package(s) to version: 0.1.2

With this update, the `ovirt-cockpit-ssos` package supports RHEL 8.

BZ#1713700

Rebase package(s) to version: spice-qxl-wddm-dod 0.19

Highlights, important fixes, or notable enhancements:

- Add 800x800 resolution
- Improve performance vs spice server 14.0 and earlier
- Fix black screen on driver uninstall on OVMF platforms
- Fix black screen on return from S3

BZ#1796815

The Object-Oriented SNMP API for Java Managers and Agents (snmp4j) library has been packaged for RHV-M consumption. The library was previously provided by the rhvm-dependencies package and is now provided as a standalone package.

BZ#1797316

Upgrade package(s) to version: rhv-4.4.0-23

Highlights and important bug fixes: Enhancements to VM snapshots caused a regression due to inconsistencies between the VDSM and RHV Manager versions. This upgrade fixes the issue by synchronizing the RHV Manager version to match the VDSM version.

BZ#1798114

Rebase of the apache-commons-digester package to version 2.1. This update is a minor release with new features. See the [Apache release notes](#) for more information.

BZ#1798117

Rebase of the apache-commons-configuration package to version 1.10. This update includes minor bug fixes and enhancements. See the [Apache release notes](#) for more information.

BZ#1799171

With this rebase, package ws-commons-utils has been updated to version 1.0.2 which provides following changes:

- Updated a non-static "newDecoder" method in the Base64 class to be static.
- Fixed the completely broken CharSetXMLWriter.

BZ#1807047

The m2crypto package has been built for use with the current version of RHV Manager. This package enables you to call OpenSSL functions from Python scripts.

BZ#1818745

With this release, Red Hat Virtualization is ported to Python 3. It no longer depends on Python 2.

6.12.4. Rebase: Enhancements Only

These items are rebases of enhancements included in this release of Red Hat Virtualization:

BZ#1698009

The `openstack-java-sdk` package has been rebased to version: 3.2.8. Highlights and notable enhancements: Refactored the package to use newer versions of these dependent libraries:

- Upgraded jackson to com.fasterxml version 2.9.x
- Upgraded commons-httpclient to org.apache.httpcomponents version 4.5

BZ#1720686

With this rebase `ovirt-scheduler-proxy` packages have been updated to version 0.1.9 introducing support for RHEL 8 and a refactor of the code for Python3 and Java 11 support.

6.12.5. Release Notes

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

BZ#1745302

oVirt 4.4 replaces the `ovirt-guest-tools` with a new WiX-based installer, included in Virtio-Win. You can download the ISO file containing the Windows guest drivers, agents, and installers from <https://fedorapeople.org/groups/virt/virtio-win/direct-downloads/latest-virtio/>

BZ#1838159

With this release, you can add hosts to RHV Manager that do not provide standard `rsa-sha-1` SSH public keys but only provide `rsa-sha256/rsa-sha-512` SSH public keys instead, such as CentOS 8 hosts with FIPS hardening enabled.

BZ#1844389

On non-production systems, you can use CentOS Stream as an alternative to CentOS Linux.

6.12.6. Known Issues

These known issues exist in Red Hat Virtualization at this time:

BZ#1809116

There is currently a known issue: Open vSwitch (OVS) does not work with `nmstate`-managed hosts. Therefore, OVS clusters cannot contain RHEL 8 hosts. Workaround: In clusters that use OVS, do not upgrade hosts to RHEL 8.

BZ#1810550

The current release contains a known issue: When the RHV Manager tries to change the mode of an existing bond to `mode balance-tlb 5` or `mode balance-alb 6`, the host fails to apply this change. The Manager reports this as a user-visible error. To work around this issue, remove the bond and create a new one with the desired mode. A solution is presently being worked on and, if successful, is intended for RHEL 8.2.1.

BZ#1813694

Known issue: If you configure a virtual machine's BIOS Type and Emulation Machine Type with mismatched settings, the virtual machine fails when you restart it. Workaround: To avoid problems, configure the BIOS Type and Emulation Machine Type with the proper settings for your hardware. The current release helps you avoid this issue: Adding a Host to a new cluster with auto-detect sets the BIOS Type accordingly.

BZ#1829656

Known issue: Unsubscribed RHVH hosts do not get package updates when you perform a 'Check for upgrade' operation. Instead, you get a 'no updates found' message. This happens because RHVH hosts that are not registered to Red Hat Subscription Management (RHSM) do not have repos enabled. Workaround: To get updates, register the RHVH host with Red Hat Subscription Management (RHSM).

BZ#1836181

The current release contains a known issue: If a VM has a bond mode 1 (active-backup) over an SR-IOV vNIC and VirtIO vNIC, the bond might stop working after the VM migrates to a host with SR-IOV on a NIC that uses an i40e driver, such as the Intel X710.

BZ#1852422

Registration fails for user accounts that belong to multiple organizations

Currently, when you attempt to register a system with a user account that belongs to multiple organizations, the registration process fails with the error message **You must specify an organization for new units**.

To work around this problem, you can either:

- Use a different user account that does not belong to multiple organizations.
- Use the **Activation Key** authentication method available in the Connect to Red Hat feature for GUI and Kickstart installations.
- Skip the registration step in Connect to Red Hat and use the Subscription Manager to register your system post-installation.

BZ#1859284

If you create VLANs on virtual functions of SR-IOV NICs, and the VLAN interface names are longer than ten characters, the VLANs fail. This happens because the naming convention for VLAN interfaces, **parent_device.VLAN_ID**, tends to produce names that exceed the 10-character limit. The workaround for this issue is to create udev rules as described in [1854851](#).

BZ#1860923

In RHEL 8.2, **ignoredisk --drives** is not recognized by Anaconda in Kickstart files correctly. Consequently, when installing or reinstalling the host's operating system, it is strongly recommended that you either detach any existing non-OS storage that is attached to the host, or use **ignoredisk --only-use** to avoid accidental initialization of these disks, and with that, potential data loss.

BZ#1863045

When you upgrade Red Hat Virtualization with a storage domain that is locally mounted on / (root), the data might be lost.

Use a separate logical volume or disk to prevent possible loss of data during upgrades. If you are using / (root) as the locally mounted storage domain, migrate your data to a separate logical volume or disk prior to upgrading.

6.12.7. Removed Functionality

BZ#1399714

Version 3 of the Python SDK has been deprecated since version 4.0 of oVirt. The current release removes it completely, along with version 3 of the REST API.

BZ#1399717

Version 3 of the Java SDK has been deprecated since version 4.0 of oVirt. The current release removes it completely, along with version 3 of the REST API.

BZ#1638675

The current release removes OpenStack Neutron deployment, including the automatic deployment of the neutron agents through the Network Provider tab in the New Host window and the AgentConfiguration in the REST-API. Use the following components instead:

- To deploy OpenStack hosts, use the OpenStack Platform Director/TripleO.
- The Open vSwitch interface mappings are already managed automatically by VDSM in Clusters with switch type OVS.
- To manage the deployment of ovirt-provider-ovn-driver on a cluster, update the cluster's "Default Network Provider" attribute.

BZ#1658061

RHV 4.3 was shipping drivers for Windows XP and Windows Server 2k3. Both of these operating systems are obsolete and unsupported. The current release removes these drivers.

BZ#1698016

Previously, the cockpit-machines-ovirt package was deprecated in Red Hat Virtualization version 4.3 (reference bug #1698014). The current release removes the cockpit-machines-ovirt from the ovirt-host dependencies and RHV-H image.

BZ#1703840

The vds-hook-macspoof has been dropped from the VDSM code. If you still require the ifacemacspoof hook, you can find and fix the vnic profiles using a script similar to the one provided in the [commit message](#).

BZ#1712255

Support for datacenter and cluster levels earlier than version 4.2 has been removed.

BZ#1725775

Previously, the **screen** package was deprecated in RHEL 7.6. With this update to RHEL 8-based hosts, the **screen** package is removed. The current release installs the **tmux** package on RHEL 8-based hosts instead of **screen**.

BZ#1728667

The current release removes heat-cfntools, which is not used in rhvm-appliance and RHV. Updates to heat-cfntools are available only through OSP.

BZ#1746354

With this release, the Application Provisioning Tool service (APT) is removed.

The APT service could cause a Windows virtual machine to reboot without notice, causing possible data loss. With this release, the virtio-win installer replaces the APT service.

BZ#1753889

In RHV version 4.4, oVirt Engine REST API v3 has been removed. Update your custom scripts to use REST API v4.

BZ#1753894

The oVirt Engine SDK 3 Java bindings are not shipped anymore with oVirt 4.4 release.

BZ#1753896

The oVirt Python SDK version 3 has been removed from the project. You need to upgrade your scripts to use Python SDK version 4.

BZ#1795684

Hystrix monitoring integration has been removed from ovirt-engine due to limited adoption and difficulty to maintain.

BZ#1796817

The Object-Oriented SNMP API for Java Managers and Agents (snmp4j) library is no longer bundled with the rhvm-dependencies package. It is now provided as a standalone rpm package (Bug #1796815).

BZ#1818554

The current version of RHV removes libvirt packages that provided non-socket activation. Now it contains only libvirt versions that provide socket activation. Socket activation provides better resource handling: There is no dedicated active daemon; libvirt is activated for certain tasks and then exits.

BZ#1827177

Metrics Store support has been removed in Red Hat Virtualization 4.4. Administrators can use the Data Warehouse with Grafana dashboards (deployed by default with Red Hat Virtualization 4.4) to view metrics and inventory reports. See the [Grafana documentation](#) for information on Grafana. Administrators can also send metrics and logs to a standalone Elasticsearch instance.

BZ#1846596

In previous versions, the katello-agent package was automatically installed on all hosts as a dependency of the ovirt-host package. The current release, RHV 4.4 removes this dependency to reflect the removal of the katello-agent from Satellite 6.7. Instead, you can now use katello-host-tools, which enables users to install the correct agent for their version of Satellite.

APPENDIX A. LEGAL NOTICE

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