

Red Hat Enterprise Virtualization 3.0 Technical Notes

Technical Release Documentation

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Edition 1

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The Red Hat Enterprise Virtualization 3.0 Technical Notes list and document the changes made between release 2.2 and release 3.0 of Red Hat Enterprise Virtualization. Subsequent advisories that provide enhancements, provide bug fixes, or address security flaws are also listed.

Preface	v
1. RHBA-2011:1783 — Red Hat Enterprise Virtualization Hypervisor	1
1.1. Node	1
1.2. Hypervisor	2
2. RHEA-2011:1817 — Red Hat Enterprise Virtualization Manager	5
2.1. General	5
2.2. Installation	7
2.3. Administration Portal	8
2.4. User Portal	18
2.5. Backend	20
2.6. History and Reporting	30
2.7. REST API	31
2.8. ISO Uploader	31
2.9. Log Collector	32
3. RHBA-2011:1818 — Windows Guest Tools	33
3.1. General	33
3.2. SPICE Guest Agent	38
3.3. SPICE Video Driver	39
3.4. SPICE USB Redirection	39
4. RHEA-2011:1823 — SPICE Client	41
4.1. SPICE Video Driver	41
4.2. SPICE Client	41
4.3. SPICE ActiveX Component	44
5. RHBA-2012:0020 — Red Hat Enterprise Virtualization Manager	47
5.1. Installation	47
5.2. User Portal	47
5.3. Backend	47
5.4. REST API	49
6. RHBA-2012:0029 — Red Hat Enterprise Virtualization Hypervisor	51
6.1. Node	51
7. RHBA-2012:0048 — Red Hat Enterprise Virtualization Hypervisor	53
7.1. Node	53
7.2. Hypervisor	53
8. RHSA-2012:0109 — Red Hat Enterprise Virtualization Hypervisor	55
8.1. Node	55
9. RHBA-2012:0110 — Red Hat Enterprise Virtualization Manager	57
9.1. Installation	57
9.2. Administration Portal	57
9.3. User Portal	57
9.4. REST API	58
9.5. ISO Uploader	58
9.6. History and Reporting	59
9.7. Backend	59
A. Revision History	61

Preface

The Red Hat Enterprise Virtualization 3.0 Technical Notes list and document the changes made between release 2.2 and release 3.0 of Red Hat Enterprise Virtualization.

For system administrators and others planning Red Hat Enterprise Virtualization 3.0 upgrades and deployments, the Technical Notes provide a single, organized record of the bugs fixed in, features added to, and Technology Previews included with this new release of Red Hat Enterprise Virtualization.

For auditors and compliance officers, the Red Hat Enterprise Virtualization 3.0 Technical Notes provide a single, organized source for change tracking and compliance testing.

For every user, the Red Hat Enterprise Virtualization 3.0 Technical Notes provide details of what has changed in this new release.

RHBA-2011:1783 — Red Hat Enterprise Virtualization Hypervisor

The bugs contained in this chapter are addressed by advisory RHBA-2011:1783. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHBA-2011-1783.html>.

1.1. Node

BZ#699524¹

Modal dialog boxes have been replaced with inline error messages where appropriate in newt. Modal dialog boxes have been retained in Red Hat Enterprise Virtualization Hypervisor only where the user must make a choice. On the Config UI Security Page, modal dialog boxes have been removed where doing so did not diminish functionality. The look and feel of the Config UI Security Page has also been streamlined.

BZ#708189²

'admin' user account is used to access RHEV-H Configuration menu at login prompt and its password is set at initial interactive installation time. For automated RHEV-H installation, adminpw boot parameter was introduced to set the password for the 'admin' user. This is optional and RHEV-H Configuration menu is not required if automated installation was successful.

rootpw boot parameter was introduced to allow debugging installation failures but root shell access is not required for normal RHEV-H operations and it is not supported except when instructed by Red Hat Support.

When using the rootpw parameter, registration to RHEV-M will fail until the root password is updated on first login.

BZ#717532³

When DHCP is selected in RHEV Hypervisor Network configuration, NTP and DNS server information is retrieved from DHCP options and cannot be manually selected.

BZ#719249⁴

The only path available for Red Hat Enterprise Virtualization Local Storage Domain on Red Hat Enterprise Virtualization Hypervisor 6 is /data/images/rhev.

¹ <https://bugzilla.redhat.com/699524>

² <https://bugzilla.redhat.com/708189>

³ <https://bugzilla.redhat.com/717532>

⁴ <https://bugzilla.redhat.com/719249>

BZ#[725392](https://bugzilla.redhat.com/725392)⁵

Upgrade from RHEV Hypervisor 6.2-0.12 (RHEV 3.0 Beta 1) is not supported. You must reinstall the hypervisor using installation media for RHEV Hypervisor 6.2-0.17.2 or higher version.

BZ#[733357](https://bugzilla.redhat.com/733357)⁶

Previously, Red Hat Enterprise Virtualization did not have a boot menu option that provided a clean install. In some cases, attempting a clean install could lead to NIC devices being improperly configured.

Red Hat Enterprise Virtualization now has a boot menu option which provides a clean install which properly configures NIC devices.

BZ#[747102](https://bugzilla.redhat.com/747102)⁷

Upgrades from beta to GA will result in an incorrect partitioning of the host. GA version must be installed clean.

UEFI machines must be set to legacy boot options for RHEV-H to boot successfully after installation.

1.2. Hypervisor

BZ#[663658](https://bugzilla.redhat.com/663658)⁸

Red Hat Enterprise Virtualization Hypervisor now supports installation to a wider range of Secure Digital (SD) cards.

Installation to this larger set of SD cards is in addition to the already fully supported use of locally attached SATA hard disk drives and fibre-channel-attached LUNs.

RHEV-H continues to be fully supported for boot and installation from the following devices: USB thumbdrives, Secure Digital cards, and CDROM (both physical and virtual). It is also supported via PXE boot.

BZ#[740565](https://bugzilla.redhat.com/740565)⁹

Previously, you could not run side-by-side installations of Red Hat Enterprise Virtualization Hypervisor.

⁵ <https://bugzilla.redhat.com/725392>

⁶ <https://bugzilla.redhat.com/733357>

⁷ <https://bugzilla.redhat.com/747102>

⁸ <https://bugzilla.redhat.com/663658>

⁹ <https://bugzilla.redhat.com/740565>

Now, you can allow side-by-side installations of the hypervisor by configuring yum to make rhev-hypervisor an install-only package. Edit the yum.conf file and add the installonlypkgs option:

```
[main]
...
installonlypkgs=rhev-hypervisor
```

This option also needs to include the default list of install-only packages, which you can find by running the `man yum.conf` command and looking at the `installonlypkgs` option.

RHEA-2011:1817 — Red Hat Enterprise Virtualization Manager

The bugs contained in this chapter are addressed by advisory RHEA-2011:1817. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHEA-2011-1817.html>.

2.1. General

BZ#[588854](#)¹

Previously, Red Hat Enterprise Virtualization could not migrate SAP guests while maintaining monitoring support, which meant that SAP customers could not be supported. SAP requires detailed statistics about the host environment for each virtual machine, therefore it has approved **vhostmd**, a daemon that exports data from shared memory to virtual disks. **vhostmd** has now been added to Red Hat Enterprise Linux host and Red Hat Enterprise Virtualization Hypervisor, and can be enabled on each virtual machine.

BZ#[611302](#)²

A new, RESTful API was added to Red Hat Enterprise Virtualization. This API replaces the PowerShell API that was present in RHEV 2.2.

BZ#[607613](#)³

You can now specify kickstart URLs, and permits passing command line parameters to Red Hat Enterprise Linux guests. You can also boot with a specific initrd or kernel, and pass kernel boot options to guests.

BZ#[652820](#)⁴

You can now attach an unlimited number of storage domains to a data center. Previously, the maximum number of storage domains per data center was eight.

BZ#[611201](#)⁵

Red Hat Enterprise Virtualization Manager has improved its scalability numbers. The administration portal can now support more hosts, more virtual machines, more concurrent administrators, and more concurrent users than it could in a previous version.

BZ#[611326](#)⁶

¹ https://bugzilla.redhat.com/show_bug.cgi?id=588854

² https://bugzilla.redhat.com/show_bug.cgi?id=611302

³ https://bugzilla.redhat.com/show_bug.cgi?id=607613

⁴ https://bugzilla.redhat.com/show_bug.cgi?id=652820

⁵ https://bugzilla.redhat.com/show_bug.cgi?id=611201

⁶ https://bugzilla.redhat.com/show_bug.cgi?id=611326

Red Hat Enterprise Virtualization Manager has improved its scalability numbers, and can support more hosts, more virtual machines, more concurrent administrators, and more concurrent users than it could in a previous version.

BZ#[613175](#)⁷

Red Hat Enterprise Virtualization Manager has improved its scalability numbers. The administration portal and user portal can now support more hosts, more virtual machines, more concurrent administrators, and more concurrent users than they could in a previous version.

BZ#[611176](#)⁸

In the user portal, power users can now create, edit, and delete virtual machines, and attach CDs to virtual machines. In addition, power users can use snapshots and templates, and monitor virtual machine resource usage including network, storage, CPU and memory utilization.

BZ#[612972](#)⁹

Errors caused by low storage space are now detected and persisted, and displayed in the administration portal.

BZ#[612557](#)¹⁰

Red Hat Enterprise Virtualization Manager's VDSM now supports Transparent Huge Pages (THP), which is active by default but not configurable through the administration portal.

BZ#[611197](#)¹¹

Red Hat Enterprise Virtualization now sends a query every second to check the cache for changes. As a result, the administration portal is refreshed at a higher rate, and the uptime for each virtual machine is updated with finer granularity.

BZ#[661684](#)¹²

Previously, storage domains could be created from existing volume groups. Storage domains can now only be created from new volume groups.

BZ#[683708](#)¹³

⁷ https://bugzilla.redhat.com/show_bug.cgi?id=613175

⁸ https://bugzilla.redhat.com/show_bug.cgi?id=611176

⁹ https://bugzilla.redhat.com/show_bug.cgi?id=612972

¹⁰ https://bugzilla.redhat.com/show_bug.cgi?id=612557

¹¹ https://bugzilla.redhat.com/show_bug.cgi?id=611197

¹² https://bugzilla.redhat.com/show_bug.cgi?id=661684

¹³ https://bugzilla.redhat.com/show_bug.cgi?id=683708

Red Hat Enterprise Virtualization now supports running Red Hat Cluster Suite and High Availability in Red Hat Enterprise Linux virtual machines.

BZ#[591235](#)¹⁴

Red Hat Enterprise Virtualization now supports bonding mode 1, which provides switch fault tolerance.

BZ#[720379](#)¹⁵

Red Hat Enterprise Virtualization Manager can now measure disk latency (read, write and flush) for block devices, which can be used to report I/O issues experienced by virtual machines.

BZ#[622010](#)¹⁶

Previously, Red Hat Enterprise Virtualization Manager assigned the `rtl_pv` network interface card (NIC) to a virtual desktop by default. As a result, a virtual desktop was assigned two NICs (`rtl` and `pv`), each with the same MAC address. Now, the Red Hat Enterprise Virtualization Network installer assigns `rtl` NICs, and two active NICs with the same MAC address cannot be used simultaneously.

2.2. Installation

BZ#[667130](#)¹⁷

A previous version of Red Hat Enterprise Virtualization restricted certain characters in passwords, which caused problems when interfacing with SQL databases. Red Hat Enterprise Virtualization now permits you to include non-alphanumeric characters in passwords.

BZ#[611309](#)¹⁸

Previously, the Red Hat Enterprise Virtualization Manager was installed on Windows servers. The Red Hat Enterprise Virtualization Manager now runs exclusively on Red Hat Enterprise Linux 6 servers, and requires a clean installation. Legacy data centers and clusters from previous releases cannot be directly upgraded, and requires a separate migration tool.

BZ#[695321](#)¹⁹

Red Hat Enterprise Virtualization now includes an installation script, `rhevms-setup`, which guides users through the setting up of the Manager.

¹⁴ https://bugzilla.redhat.com/show_bug.cgi?id=591235

¹⁵ https://bugzilla.redhat.com/show_bug.cgi?id=720379

¹⁶ https://bugzilla.redhat.com/show_bug.cgi?id=622010

¹⁷ https://bugzilla.redhat.com/show_bug.cgi?id=667130

¹⁸ https://bugzilla.redhat.com/show_bug.cgi?id=611309

¹⁹ https://bugzilla.redhat.com/show_bug.cgi?id=695321

2.3. Administration Portal

BZ#696475²⁰

The metadata structure of storage domains was changed during the upgrade from Red Hat Enterprise Virtualization 2.2 to 3.0. A new property named "format" is implemented to differentiate between versions, in which 1 is the old metadata format, and 2 is the new metadata format. Data centers created in a 3.0 environment support both formats, whereas 2.2 data centers support only format 1.

BZ#706907²¹

The administration portal now features a button labeled **Market Place**. Clicking this button opens a new tab in your web browser, which directs you to an online marketplace to download add-ons including performance management and security tools.

BZ#703857²²

Changing the **Memory Size** field under the **General** tab when creating a new virtual machine does not automatically increase the **Physical Memory Guaranteed** value under the **Resource Allocation** tab, so memory management on the host is more efficient.

BZ#648139²³

Red Hat Enterprise Virtualization did not properly detect the correct MSI for a user's architecture when installing the ActiveX component or SPICE client via the user portal. The correct MSI file is now presented based on the browser or presentation host.

BZ#695628²⁴

Dialog boxes in Tree Mode are now context-sensitive to the item selected in the tree.

BZ#697287²⁵

Previously, the options for running or migrating virtual machines were not worded clearly. Now, the text clearly conveys two options which do not overlap, so users can accurately select their desired virtual machine migration settings.

BZ#662650²⁶

The **Allocation** tab is now named **Resource Allocation**. This tab comprises two parts: storage allocation, which allows you to choose the data storage domain and the

²⁰ https://bugzilla.redhat.com/show_bug.cgi?id=696475

²¹ https://bugzilla.redhat.com/show_bug.cgi?id=706907

²² https://bugzilla.redhat.com/show_bug.cgi?id=703857

²³ https://bugzilla.redhat.com/show_bug.cgi?id=648139

²⁴ https://bugzilla.redhat.com/show_bug.cgi?id=695628

²⁵ https://bugzilla.redhat.com/show_bug.cgi?id=697287

²⁶ https://bugzilla.redhat.com/show_bug.cgi?id=662650

provisioning scheme; and memory allocation, which allows you to choose the physical memory guaranteed.

BZ#[695634](https://bugzilla.redhat.com/show_bug.cgi?id=695634)²⁷

When a data center could not reach its master storage domain, it could not be recovered and reassigned a new master domain. Now, when a data center is non-responsive, it can be forcefully removed. All data domains attached to the data center are also detached.

BZ#[654669](https://bugzilla.redhat.com/show_bug.cgi?id=654669)²⁸

When a user search query failed, you would receive no message indicating whether a user did not exist or there had been some other error. Now, a "No results found" message displays when the searched-for user does not exist, and relevant messages display for other errors.

BZ#[596262](https://bugzilla.redhat.com/show_bug.cgi?id=596262)²⁹

The **Storage** tab now displays the type of each storage domain, indicating whether it is NFS, iSCSI, FCP or Local.

BZ#[629043](https://bugzilla.redhat.com/show_bug.cgi?id=629043)³⁰

The hosts' **Network Interfaces** tab now displays which bond each NIC is assigned to.

BZ#[630042](https://bugzilla.redhat.com/show_bug.cgi?id=630042)³¹

Previously, the host details pane displayed a grayed-out "Upgrade" link even when the host was not in maintenance mode. Now, the option to upgrade only displays when the host is in maintenance mode.

BZ#[707250](https://bugzilla.redhat.com/show_bug.cgi?id=707250)³²

In a localized version of the Red Hat Enterprise Virtualization Manager, the calendar format was incompatible, and a date which does not exist could be provided. Therefore, clicking the **Snapshots** tab caused the administration portal to crash. Now, the calendar has been removed from the **Snapshots** tab, and these errors no longer occur.

BZ#[569518](https://bugzilla.redhat.com/show_bug.cgi?id=569518)³³

Previously, no warning message appeared when you removed a system disk from a virtual machine, which meant that you could delete a system disk without ever being warned that

²⁷ https://bugzilla.redhat.com/show_bug.cgi?id=695634

²⁸ https://bugzilla.redhat.com/show_bug.cgi?id=654669

²⁹ https://bugzilla.redhat.com/show_bug.cgi?id=596262

³⁰ https://bugzilla.redhat.com/show_bug.cgi?id=629043

³¹ https://bugzilla.redhat.com/show_bug.cgi?id=630042

³² https://bugzilla.redhat.com/show_bug.cgi?id=707250

³³ https://bugzilla.redhat.com/show_bug.cgi?id=569518

you were doing so. You now see a warning before you remove a system disk from a virtual machine.

BZ#[604588](#)³⁴

The configuration tool now provides a system-wide option to wipe SAN disks after removal, enhancing data security.

BZ#[725431](#)³⁵

Previously, the process of detaching and reattaching a storage domain to a data center was not intuitive, and required navigation through multiple tabs in the administration portal. Now, this process can be performed in one tab, and only the available data centers to which storage domains can be attached are displayed.

BZ#[677453](#)³⁶

Previously, you could not sort storage by different criteria when creating storage domains. The administration portal would present you with a long and hard-to-navigate list of LUNs. You can now sort LUNS and targets according to LUN ID, Vendor ID, Size, Serial, IP Address, and Target Name.

BZ#[511041](#)³⁷

Previously, you could not remove a template from one storage domain while leaving it in another. Using the **Storage** tab in the template's details pane, you can now delete templates from specific storage domains.

BZ#[620145](#)³⁸

The dialog box for adding or editing a cluster now shows the data center name and type, facilitating the implementation of storage.

BZ#[665306](#)³⁹

You can now select between three migration options when a host moves to a non-operational state: migrate all virtual machines, migrate only highly available virtual machines, or disable all migration.

BZ#[482660](#)⁴⁰

³⁴ https://bugzilla.redhat.com/show_bug.cgi?id=604588

³⁵ https://bugzilla.redhat.com/show_bug.cgi?id=725431

³⁶ https://bugzilla.redhat.com/show_bug.cgi?id=677453

³⁷ https://bugzilla.redhat.com/show_bug.cgi?id=511041

³⁸ https://bugzilla.redhat.com/show_bug.cgi?id=620145

³⁹ https://bugzilla.redhat.com/show_bug.cgi?id=665306

⁴⁰ https://bugzilla.redhat.com/show_bug.cgi?id=482660

Previously, free text fields were used to designate IP or subnet addresses. These fields have now been replaced with IP address boxes.

BZ#[622235](#)⁴¹

Previously, there was no SANWipeAfterDelete value in the database. Therefore, the option to delete all data from a removed virtual machine could not be configured from the database. Now, SANWipeAfterDelete has been added to the database. When adding or editing a virtual disk in a non-NFS storage domain, the "Wipe after delete" checkbox automatically reflects the configuration value set in the database.

BZ#[625945](#)⁴²

Previously, Red Hat Enterprise Virtualization did not provide a reminder to shut down or restart a host before manually fencing it. This led to conditions in which virtual machines started on multiple hosts, sometimes in a corrupted state. Red Hat Enterprise Virtualization now provides you with a reminder to "Confirm host has been rebooted" and a warning message about possible storage corruption.

BZ#[610057](#)⁴³

When a host is selected in the **Hosts** tab, its iSCSI initiator name now displays in the **General** tab of the host's details pane.

BZ#[624533](#)⁴⁴

Red Hat Enterprise Virtualization now provides a reason when you put a virtual machine into a paused state.

BZ#[607207](#)⁴⁵

Previously, when a new template-based server was created, the **Resource Allocation** provisioning tab displayed the value "thin" as a default. "Thin" is the optimal provisioning value for desktops and "Clone" is the optimal value for servers. Now, the default provisioning value is "Clone", meaning that the server claims the full disk space that is allocated, which allows better performance.

BZ#[611189](#)⁴⁶

Previously, statistics were shown only for the busiest network interfaces for hosts and virtual machines. Now, statistics are displayed for all interfaces.

⁴¹ https://bugzilla.redhat.com/show_bug.cgi?id=622235

⁴² https://bugzilla.redhat.com/show_bug.cgi?id=625945

⁴³ https://bugzilla.redhat.com/show_bug.cgi?id=610057

⁴⁴ https://bugzilla.redhat.com/show_bug.cgi?id=624533

⁴⁵ https://bugzilla.redhat.com/show_bug.cgi?id=607207

⁴⁶ https://bugzilla.redhat.com/show_bug.cgi?id=611189

BZ#[611195](#)⁴⁷

Red Hat Enterprise Virtualization now features a new look and feel for the Snapshot tab. It now displays the name, date, time and description of the snapshot, and the applications installed on the virtual machine.

BZ#[603768](#)⁴⁸

Previously, the `swap_free` property was not included in the `ChangeablePropertiesList` of the `VDS` class. As a result, changes to the free swap value in backend reports were not reflected in the administration portal. Now, the amount of free swap is monitored, so the free swap size in the administration portal correctly reflects the amount in the database.

BZ#[611200](#)⁴⁹

You can now view, edit and create roles and quotas; manage users' roles or quotas; view object permissions; and search for roles and permissions in the administration portal.

BZ#[626295](#)⁵⁰

Clicking a link labeled **Guide** will direct you to a local html version of the Administration Guide.

BZ#[653439](#)⁵¹

You can now copy information from the **General** tab of a selected host and the NFS export path from the **General** tab of an NFS storage resource. This makes it easier to provide version numbers and path details when requesting assistance.

BZ#[666016](#)⁵²

Each virtual machine's details pane now displays more information including custom properties and migration options.

BZ#[596256](#)⁵³

Previously, the **Storage** tab confused "Domain Function" and "Storage Type". The "Storage Type" category referred wrongly to values that should be been classified under "Domain Function". "Domain Function" has now been renamed "Domain Name", and its valid values are Data, Export and ISO. The valid values for "Storage Type" are NFS, iSCSI, Fibre Channel or Local on Host.

⁴⁷ https://bugzilla.redhat.com/show_bug.cgi?id=611195

⁴⁸ https://bugzilla.redhat.com/show_bug.cgi?id=603768

⁴⁹ https://bugzilla.redhat.com/show_bug.cgi?id=611200

⁵⁰ https://bugzilla.redhat.com/show_bug.cgi?id=626295

⁵¹ https://bugzilla.redhat.com/show_bug.cgi?id=653439

⁵² https://bugzilla.redhat.com/show_bug.cgi?id=666016

⁵³ https://bugzilla.redhat.com/show_bug.cgi?id=596256

BZ#[622268](#)⁵⁴

Previously, Red Hat Enterprise Virtualization did not support locking a virtual machine to a specific host. You can now lock virtual machines to specific hosts and automatically start the virtual machines when the host is powered up or activated. Live migration and system scheduler are disabled on these virtual machines.

BZ#[595126](#)⁵⁵

Red Hat Enterprise Virtualization Manager now blocks attempts to suspend a virtual machine when the virtual machine's state is not "Up".

BZ#[610277](#)⁵⁶

Clicking the link labeled **About** displays the version number of Red Hat Enterprise Virtualization Manager installed on your system, and also the operating system and VDSM versions of your hosts.

BZ#[628881](#)⁵⁷

Clicking on a host now displays its total memory, used memory, and free memory for both physical memory and swap memory.

BZ#[621993](#)⁵⁸

You can now use VDSM hooks in the administration portal to define custom properties for creating, editing and running virtual machines.

BZ#[577611](#)⁵⁹

In both the administration portal and the power user portal, a virtual machine's details pane displays the default host on which the machine runs.

BZ#[573362](#)⁶⁰

Previously, you could remove data centers without first removing clusters, and the clusters would not be marked in any way as unattached. Clusters are now marked as unattached to data centers when the data centers that they belong to are removed.

⁵⁴ https://bugzilla.redhat.com/show_bug.cgi?id=622268

⁵⁵ https://bugzilla.redhat.com/show_bug.cgi?id=595126

⁵⁶ https://bugzilla.redhat.com/show_bug.cgi?id=610277

⁵⁷ https://bugzilla.redhat.com/show_bug.cgi?id=628881

⁵⁸ https://bugzilla.redhat.com/show_bug.cgi?id=621993

⁵⁹ https://bugzilla.redhat.com/show_bug.cgi?id=577611

⁶⁰ https://bugzilla.redhat.com/show_bug.cgi?id=573362

BZ#[621059](https://bugzilla.redhat.com/show_bug.cgi?id=621059)⁶¹

The **Network Interfaces** subtab for **Hosts** and **Virtual Machines** now displays additional network statistics for each NIC, including NIC type, MAC, speed, Rx, Tx and packets dropped.

BZ#[569184](https://bugzilla.redhat.com/show_bug.cgi?id=569184)⁶²

You can now use the "Images" tab to list all ISO images that are present in an ISO domain.

BZ#[569179](https://bugzilla.redhat.com/show_bug.cgi?id=569179)⁶³

Previously, editing a storage domain did not show the existing logical unit numbers (LUNs). If you wanted to add a new LUN to the storage domain you had to log in to the target, and you were given no information about which LUNs were already assigned. Now, you can see the existing LUNs so you can assign new LUNs without duplicating assigned numbers.

BZ#[567523](https://bugzilla.redhat.com/show_bug.cgi?id=567523)⁶⁴

A **Select Host** button has been added to the cluster **Guide Me** wizard, so you can now add a host that is in maintenance mode to the cluster.

BZ#[621058](https://bugzilla.redhat.com/show_bug.cgi?id=621058)⁶⁵

The **Snapshots** tab now displays the name, date, time and description of the snapshot, and the applications installed on the virtual machine.

BZ#[680708](https://bugzilla.redhat.com/show_bug.cgi?id=680708)⁶⁶

Clicking on a data center displays an **Events** tab in its details pane. The **Events** tab shows the time and details of changes made to the data center.

BZ#[678650](https://bugzilla.redhat.com/show_bug.cgi?id=678650)⁶⁷

Red Hat Enterprise Virtualization now informs you of syntax errors when you configure bonding for a hypervisor.

⁶¹ https://bugzilla.redhat.com/show_bug.cgi?id=621059

⁶² https://bugzilla.redhat.com/show_bug.cgi?id=569184

⁶³ https://bugzilla.redhat.com/show_bug.cgi?id=569179

⁶⁴ https://bugzilla.redhat.com/show_bug.cgi?id=567523

⁶⁵ https://bugzilla.redhat.com/show_bug.cgi?id=621058

⁶⁶ https://bugzilla.redhat.com/show_bug.cgi?id=680708

⁶⁷ https://bugzilla.redhat.com/show_bug.cgi?id=678650

BZ#532473⁶⁸

You can now copy and paste the error messages that appear when SPICE disconnects from the network.

BZ#635380⁶⁹

Red Hat Enterprise Virtualization Manager's VDSM now supports THP, which is active by default but not configurable through RHEV-M.

BZ#614852⁷⁰

When creating or running a virtual machine, you can now specify three Linux boot options: kernel path, initrd path and kernel parameters. These fields enable Linux virtual machines to boot using additional parameters which are not part of the default installation.

BZ#635392⁷¹

Previously, Red Hat Enterprise Virtualization Manager provided an insufficiently scoped message when you imported a virtual machine, which has now been reworded for clarity. Now, when you import a virtual machine, the following message displays: "Import process has begun. You can check import status in the 'Events' tab of the destination storage domain."

BZ#635370⁷²

Red Hat Enterprise Virtualization Manager now shows you the size of the disks of the virtual machines you are importing.

BZ#667666⁷³

In a previous version of Red Hat Enterprise Virtualization, when a user logged in with his UPN (for example, "john@example.com"), the backend would use example.com as its domain and ignore the domain selected in the drop-down menu. Red Hat Enterprise Virtualization now allows access to the correct domain even when users log in with their UPNs.

BZ#611241⁷⁴

When creating a new virtual disk, entering an invalid value in the disk size field now provides an error message which specifies the minimum and maximum accepted values.

⁶⁸ https://bugzilla.redhat.com/show_bug.cgi?id=532473

⁶⁹ https://bugzilla.redhat.com/show_bug.cgi?id=635380

⁷⁰ https://bugzilla.redhat.com/show_bug.cgi?id=614852

⁷¹ https://bugzilla.redhat.com/show_bug.cgi?id=635392

⁷² https://bugzilla.redhat.com/show_bug.cgi?id=635370

⁷³ https://bugzilla.redhat.com/show_bug.cgi?id=667666

⁷⁴ https://bugzilla.redhat.com/show_bug.cgi?id=611241

BZ#[742760](https://bugzilla.redhat.com/show_bug.cgi?id=742760)⁷⁵

Previously, the firewall settings on a Red Hat Enterprise Linux host had to be manually configured to allow communication between the host and the Red Hat Enterprise Virtualization Manager. Failure to do so prevented the hosts from being added to the Red Hat Enterprise Virtualization Manager. Now, the iptables rules can be automatically configured from the administration portal, so hosts can be successfully added.

BZ#[738453](https://bugzilla.redhat.com/show_bug.cgi?id=738453)⁷⁶

The VM64BitMaxMemorySizeinMB default value in Red Hat Enterprise Virtualization 3.0 has now been set to 512GB.

BZ#[675770](https://bugzilla.redhat.com/show_bug.cgi?id=675770)⁷⁷

Red Hat Enterprise Virtualization now prompts you to save your configuration immediately after you set the network configuration, by presenting a pop-up dialog.

BZ#[683023](https://bugzilla.redhat.com/show_bug.cgi?id=683023)⁷⁸

Red Hat Enterprise Virtualization Manager now provides a Tree mode which presents you with a pane that contains all resources and business entities. Clicking on one of these resources in the left pane allows you to filter the content in the right pane, or the results list.

BZ#[688139](https://bugzilla.redhat.com/show_bug.cgi?id=688139)⁷⁹

The administration portal now provides "Expand All" and "Collapse All" buttons in the Tree View.

BZ#[732515](https://bugzilla.redhat.com/show_bug.cgi?id=732515)⁸⁰

Previously, to add a Red Hat Enterprise Virtualization Hypervisor to the Red Hat Enterprise Virtualization Manager, the manager's details (server name, port number) were manually provided during the hypervisor's installation. Now, a hypervisor can also be added from the manager administration portal even if the manager's details were not provided to the hypervisor.

BZ#[689862](https://bugzilla.redhat.com/show_bug.cgi?id=689862)⁸¹

Previously, templates could only be created in the storage domain in which the virtual machine image resides. These templates had to be manually copied to another storage

⁷⁵ https://bugzilla.redhat.com/show_bug.cgi?id=742760

⁷⁶ https://bugzilla.redhat.com/show_bug.cgi?id=738453

⁷⁷ https://bugzilla.redhat.com/show_bug.cgi?id=675770

⁷⁸ https://bugzilla.redhat.com/show_bug.cgi?id=683023

⁷⁹ https://bugzilla.redhat.com/show_bug.cgi?id=688139

⁸⁰ https://bugzilla.redhat.com/show_bug.cgi?id=732515

⁸¹ https://bugzilla.redhat.com/show_bug.cgi?id=689862

domain after creation. You can now specify a destination storage domain when creating a template.

BZ#691948⁸²

The administration portal now provides context-sensitive help, which you can access by clicking a small blue circle containing a question mark in the upper-right corner of dialog windows. These links point to relevant sections in the product documentation to guide you through setting up your Red Hat Enterprise Virtualization environment.

BZ#706079⁸³

A new hourglass icon is now provided when checking connectivity under the Hosts tab, indicating that the process is underway.

BZ#705758⁸⁴

Previously, the administration portal provided no indication that the software was still working, which made it appear as though the software was no longer responding. Now progress indicators are provided in dialogs, to assure users that the Red Hat Enterprise Virtualization Manager is still in a functional state.

BZ#695622⁸⁵

Red Hat Enterprise Virtualization now presents data in the **Network** subtab under the **Host** entity in a tabular format.

BZ#695625⁸⁶

Dialog boxes in Tree Mode in Red Hat Enterprise Virtualization are now context-sensitive to the item selected in the tree in Tree Mode.

BZ#695633⁸⁷

The **Logical Networks** subtab under the **Cluster** tab now includes an **Add Network** button with the cluster and data center pre-selected. This subtab no longer provides information about the network and subnet mask, but now provides information about the cluster's vlan.

BZ#695632⁸⁸

⁸² https://bugzilla.redhat.com/show_bug.cgi?id=691948

⁸³ https://bugzilla.redhat.com/show_bug.cgi?id=706079

⁸⁴ https://bugzilla.redhat.com/show_bug.cgi?id=705758

⁸⁵ https://bugzilla.redhat.com/show_bug.cgi?id=695622

⁸⁶ https://bugzilla.redhat.com/show_bug.cgi?id=695625

⁸⁷ https://bugzilla.redhat.com/show_bug.cgi?id=695633

⁸⁸ https://bugzilla.redhat.com/show_bug.cgi?id=695632

The New/ Edit Logical Network dialog no longer presents information about the network address, subnet, and gateway, and allows you to edit the list of clusters the logical network is attached to. The Networks subtab (under the Clusters tab) no longer presents you with information about the network address, subnet, or gateway.

2.4. User Portal

BZ#648138⁸⁹

When installing ActiveX and SPICE client from the user portal, Red Hat Enterprise Virtualization now detects and presents the correct CAB file for a user's architecture based on the browser or presentation host.

BZ#702918⁹⁰

On the Red Hat Enterprise Virtualization administration portal and power user portal respectively, the dialog for creating virtual machines now contains additional options to run and migrate virtual machines.

BZ#648503⁹¹

Red Hat Enterprise Virtualization now provides tool tips for virtual machine activation buttons.

BZ#626296⁹²

The user portal now includes a link labeled **Guide** which directs users to a local html version of the User Portal Guide.

BZ#611169⁹³

Power users can now create, edit, and delete virtual machines, and attach CDs to virtual machines. In addition, power users can use snapshots and templates, and monitor virtual machine resource usage including network, storage, CPU and memory utilization.

BZ#670026⁹⁴

The user portal now reports the minimal amount of physical memory that should be available on the host on which the virtual machine will run, in the **New/Edit virtual machine** dialog, as well as in the **General** tab of the virtual machine.

⁸⁹ https://bugzilla.redhat.com/show_bug.cgi?id=648138

⁹⁰ https://bugzilla.redhat.com/show_bug.cgi?id=702918

⁹¹ https://bugzilla.redhat.com/show_bug.cgi?id=648503

⁹² https://bugzilla.redhat.com/show_bug.cgi?id=626296

⁹³ https://bugzilla.redhat.com/show_bug.cgi?id=611169

⁹⁴ https://bugzilla.redhat.com/show_bug.cgi?id=670026

BZ#[611174](#)⁹⁵

SPICE is now supported for Mozilla Firefox on Red Hat Enterprise Linux clients and Internet Explorer on Windows clients.

BZ#[611177](#)⁹⁶

A user with PowerUserRole permissions can switch between the Basic and Extended views of the User Portal. The Basic view is the only option available to users with UserRole permissions.

BZ#[481847](#)⁹⁷

Previously, only the name of a virtual machine was displayed to the user, with no additional description. Now, when you select a virtual machine, you are shown a brief description including its operating system, memory size, disk drives and display type.

BZ#[598076](#)⁹⁸

Previously, users received error messages about storage domains that should have been displayed only to administrators. Now, these messages are not displayed in the user portal. Instead, users are directed to contact their system administrators if storage domain issues arise.

BZ#[695328](#)⁹⁹

You can now use the **Run Once** option in the power user portal to specify options different from a virtual machine's default startup behaviour, for instance booting from a CD-ROM in order to install an operating system.

BZ#[695329](#)¹⁰⁰

In the power user portal, you use now the **Change CD** function on a running virtual machine. This function allows you to attach new ISO images to the virtual machine without having to go through the administration portal.

BZ#[695326](#)¹⁰¹

The power user portal now includes a **Templates** tab, which allows users to create, edit, remove and use virtual machine templates.

⁹⁵ https://bugzilla.redhat.com/show_bug.cgi?id=611174

⁹⁶ https://bugzilla.redhat.com/show_bug.cgi?id=611177

⁹⁷ https://bugzilla.redhat.com/show_bug.cgi?id=481847

⁹⁸ https://bugzilla.redhat.com/show_bug.cgi?id=598076

⁹⁹ https://bugzilla.redhat.com/show_bug.cgi?id=695328

¹⁰⁰ https://bugzilla.redhat.com/show_bug.cgi?id=695329

¹⁰¹ https://bugzilla.redhat.com/show_bug.cgi?id=695326

2.5. Backend

BZ#[583430](#)¹⁰²

The metadata structure of storage domains changed during the upgrade from Red Hat Enterprise Virtualization 2.2 to 3.0. To be backwards compatible, storage changes have to be reflected on the data center level. Now, when the user changes the data center compatibility level, VDSM is updated with the new data center format, and the compatibility levels of active storage domains are updated.

BZ#[695307](#)¹⁰³

Previously, Red Hat Enterprise Virtualization required that initrd (initial ramdisk) files reside on the host. Now, Red Hat Enterprise Virtualization allows loading initrd files from the ISO domain. This allows you to set boot options in the initrd file stored in the ISO domain.

BZ#[702939](#)¹⁰⁴

Previously, when you try to change a CD in a running virtual machine while the ISO domain is inactive, you would receive an unclear error message: "Driver image file could not be found". Now, if you attempt the same action, you are presented with an error message which clearly pinpoints the inactive ISO domain as the problem.

BZ#[590767](#)¹⁰⁵

Red Hat Enterprise Virtualization Manager will now display warnings on the hosts' audit logs when storage devices are slow in responding.

BZ#[695602](#)¹⁰⁶

When a data center could not reach its master storage domain, it could not be recovered and reassigned a new master domain. Now, when a data center is non-responsive, it can be forcefully removed. All data domains attached to the data center are also detached.

BZ#[595610](#)¹⁰⁷

Red Hat Enterprise Virtualization now includes database service verification on the status webpage, and the backend functionality is now supported.

BZ#[688600](#)¹⁰⁸

¹⁰² https://bugzilla.redhat.com/show_bug.cgi?id=583430

¹⁰³ https://bugzilla.redhat.com/show_bug.cgi?id=695307

¹⁰⁴ https://bugzilla.redhat.com/show_bug.cgi?id=702939

¹⁰⁵ https://bugzilla.redhat.com/show_bug.cgi?id=590767

¹⁰⁶ https://bugzilla.redhat.com/show_bug.cgi?id=695602

¹⁰⁷ https://bugzilla.redhat.com/show_bug.cgi?id=595610

¹⁰⁸ https://bugzilla.redhat.com/show_bug.cgi?id=688600

The new ISO uploader tool provides an ISO cache mechanism, which refreshes active ISO storage domains and displays the available images in the administration portal.

BZ#[630904](#)¹⁰⁹

Previously, when you restarted a set of highly available virtual machines after fencing the original hosts, one of the virtual machines in the set would fail to start. This happened only in heavily loaded environments (for instance, environments comprising ten hosts and 300 to 350 virtual machines). The virtual machine which failed to start would not be put in a "down" state, so you could not manually restart it. Now, hosts receive a CPU check after you fence them, and Red Hat Enterprise Virtualization Manager properly reports the status of virtual machines. If one of the machines cannot be restarted, Red Hat Enterprise Virtualization Manager puts that virtual machine into a "down" state and allows you to restart it manually.

BZ#[665295](#)¹¹⁰

Previously, the custom property "sndbuf" was set to an unacceptably high value, causing communication failure between hosts and unresponsive guests. The sndbuf value is now set to 0, and passed to VDSM and qemu-kvm. Setting this parameter to the lowest possible value significantly mitigates the risk of communication failure when hosts attempt to communicate with unresponsive guests.

BZ#[670013](#)¹¹¹

When a detached host was reattached to a new cluster, the UpdateVdsCommand did not update the domain changes in the database. Consequently, the SetNonOperationalVdsCommand was executed, so the host became non-responsive. Now, the UpdateVdsCommand reflects the changes made in the administration portal, so reattaching hosts works as expected.

BZ#[630661](#)¹¹²

Previously, hosts would not return to an active status after a network failure. Instead, they remained "unassigned" without a way to change the status, and VDSM did not record this error. You are now provided with means of changing the host status in the event of a network failure, and the VDSM log now records this error.

BZ#[588233](#)¹¹³

Previously, agent tools were not shared, which meant that ISO images were not attached to virtual machines during boot. Metadata about agent tools is now stored in a database that is local to the Red Hat Enterprise Virtualization Manager. On an ISO domain that is shared between multiple Red Hat Enterprise Virtualization Manager environments, the agent tools are available only on the manager that is used to upload the tools until the list of ISO images is updated. To update the list of ISO images, either click the refresh button or wait the amount of time that is specified for the "AutoRepoDomainRefreshTime" option in vds_options.

¹⁰⁹ https://bugzilla.redhat.com/show_bug.cgi?id=630904

¹¹⁰ https://bugzilla.redhat.com/show_bug.cgi?id=665295

¹¹¹ https://bugzilla.redhat.com/show_bug.cgi?id=670013

¹¹² https://bugzilla.redhat.com/show_bug.cgi?id=630661

¹¹³ https://bugzilla.redhat.com/show_bug.cgi?id=588233

BZ#[506710](#)¹¹⁴

The Search option in the administration portal can now retrieve users according to role (for example, "Users : role = PowerUserRole") and permissions on objects (for example, "Users : Vm = rhelserver").

BZ#[606076](#)¹¹⁵

Using the rhevm-config tool, you can now use the SANWipeAfterDelete option to configure a default option for wiping SAN disks after virtual machines are deleted.

BZ#[601857](#)¹¹⁶

Red Hat Enterprise Virtualization supports the creation of virtual machines with minimum 512 MB RAM, but it is also possible to create a virtual machine with less RAM using the rhev-config tool. Note, however, that it is not supported.

BZ#[674698](#)¹¹⁷

Red Hat Enterprise Virtualization now supports fencing Cisco UCS blades with slot, options and secure (SSL) arguments.

BZ#[618606](#)¹¹⁸

When a running virtual machine was paused then restarted through vdsClient, Red Hat Enterprise Virtualization would throw a System.NullReferenceException, which caused a VDSNetworkException to be logged. With this update, a paused virtual machine can be resumed with no error messages.

BZ#[621067](#)¹¹⁹

Red Hat Enterprise Virtualization Manager's VDSM now supports Transparent Huge Pages (THP), which is active by default.

BZ#[733552](#)¹²⁰

Previously in Red Hat Enterprise Virtualization Manager, when setting the timezone during the setup of a virtual Windows machine, the Australian timezones appeared twice. This issue has been corrected, and the four Australian timezones appear only once during setup.

¹¹⁴ https://bugzilla.redhat.com/show_bug.cgi?id=506710

¹¹⁵ https://bugzilla.redhat.com/show_bug.cgi?id=606076

¹¹⁶ https://bugzilla.redhat.com/show_bug.cgi?id=601857

¹¹⁷ https://bugzilla.redhat.com/show_bug.cgi?id=674698

¹¹⁸ https://bugzilla.redhat.com/show_bug.cgi?id=618606

¹¹⁹ https://bugzilla.redhat.com/show_bug.cgi?id=621067

¹²⁰ https://bugzilla.redhat.com/show_bug.cgi?id=733552

BZ#657282¹²¹

Previously, the REST API did not indicate which network had been set as the display network. It now offers representations of networks that include `<display>` tags, which can have their values modified.

BZ#515404¹²²

Previously, the prefix of host iSCSI initiator names was not displayed by default. The absence of iSCSI initiator names made it difficult for ACL (fraud detection) purposes such as audit analytics and continuous monitoring. Red Hat Enterprise Virtualization Manager now generates a unique random iSCSI initiator name during installation, and displays this name in the administration portal.

BZ#529554¹²³

Previously, some hosts could not detect domains after the domains had been attached to a data center. An error message should have alerted users to this, but no error message was generated. The hosts that could not detect the domain would change to a non-operational state after five minutes. Although this behavior was expected, it was not favorable in all cases. The `migrateOnError` option has been added so that you can select a preferred behavior:

- (NO) do nothing with the virtual machines on the host
- (YES) migrate all virtual machines from host
- (HA_ONLY) migrate only high-availability virtual machines

The default behavior is for the option to be set to YES, so all virtual machines are migrated from the host if they cannot detect the domain.

BZ#657248¹²⁴

Red Hat Enterprise Virtualization now displays the IP address and secure port in REST API's representation of a virtual machine.

BZ#633046¹²⁵

Previously, a non-operational host would become non-operational without a coherent reason, so it was difficult to troubleshoot the error and return the host to a running state. Red Hat Enterprise Virtualization now provides the reason why a non-operational host becomes non-operational under the **Events** log in the administration portal.

BZ#554126¹²⁶

You can now create a user who has administrator abilities to a virtual machine, but no access to the console.

¹²¹ https://bugzilla.redhat.com/show_bug.cgi?id=657282

¹²² https://bugzilla.redhat.com/show_bug.cgi?id=515404

¹²³ https://bugzilla.redhat.com/show_bug.cgi?id=529554

¹²⁴ https://bugzilla.redhat.com/show_bug.cgi?id=657248

¹²⁵ https://bugzilla.redhat.com/show_bug.cgi?id=633046

¹²⁶ https://bugzilla.redhat.com/show_bug.cgi?id=554126

BZ#[657264](#)¹²⁷

Red Hat Enterprise Virtualization now warns you when a host's physical memory drops below a threshold. By default, this value is set to 1024MB, but it can be changed. When the threshold is reached, a warning displays every five (5) hours in the **Events** tab of the administration portal.

BZ#[626369](#)¹²⁸

When using a multipath fibre channel LUN, the multipath column in the administration portal displayed the number of available paths as 0, suggesting that multiple paths were not supported. VDSM now returns the size and status for each path, and properly displays the number of available paths in the administration portal.

BZ#[581928](#)¹²⁹

Red Hat Enterprise Virtualization 2.1 hosts, clusters and data centers are not supported for 3.0. The installer will validate the version compatibility before upgrading, and if the Red Hat Enterprise Virtualization environment still contains 2.1 elements, the upgrade will fail.

BZ#[646144](#)¹³⁰

Previously, Red Hat Enterprise Virtualization Manager did not save and persist the bonding options configured on a host, which caused networking to fail, or revert to basic defaults when the host was rebooted. Now, the bonding options are saved under `vds_interface` in the database, and persisted upon startup.

BZ#[663604](#)¹³¹

Red Hat Enterprise Virtualization Manager now properly configures Windows 7 virtual machines to use Intel HDA (High Definition Audio) sound cards.

BZ#[642635](#)¹³²

Red Hat Enterprise Virtualization Manager now supports the ilo3 fence agent, which is implemented by `ipmilan` with `timeout=4,lanplus` as the default implicit parameters. These implicit parameters can be overridden if you specify further options when configuring power management for your host in the administration portal.

BZ#[618224](#)¹³³

¹²⁷ https://bugzilla.redhat.com/show_bug.cgi?id=657264

¹²⁸ https://bugzilla.redhat.com/show_bug.cgi?id=626369

¹²⁹ https://bugzilla.redhat.com/show_bug.cgi?id=581928

¹³⁰ https://bugzilla.redhat.com/show_bug.cgi?id=646144

¹³¹ https://bugzilla.redhat.com/show_bug.cgi?id=663604

¹³² https://bugzilla.redhat.com/show_bug.cgi?id=642635

¹³³ https://bugzilla.redhat.com/show_bug.cgi?id=618224

Previously, a host's CPU model was detected based on the CPU flags set on it. This enabled compatibility checks with host clusters. Now, Red Hat Enterprise Virtualization Manager uses pre-defined qemu-kvm CPU models for hosts. This improves the accuracy of host CPU detection, so the hosts can be correctly attached to clusters with compatible CPU settings.

BZ#611314¹³⁴

Red Hat Enterprise Virtualization supports Active Directory as a standalone directory running on the Red Hat Enterprise Virtualization Manager, or as remote forests. Active Directory enables administrators to authenticate and manage users, and also manage virtual machines.

BZ#666712¹³⁵

A previous version of Red Hat Enterprise Virtualization requested far too many objects during refresh, and Active Directory was unable to handle more than 1000 objects per refresh. This also put an unacceptably heavy load on the server. Now, the AdGetAdUsersByUserListCommand query only permits 1000 or less object requests per refresh. This prevents Active Directory from being overloaded with requests, and prevents the LDAP server from being overloaded.

BZ#622267¹³⁶

Previously, Red Hat Enterprise Virtualization did not lock virtual machines to specific hosts. Now, a virtual machine can be configured to run on only one host, with live migration and system scheduler disabled.

BZ#667659¹³⁷

Previously, the MaxRerunVmOnVdsCount variable was set to 1000 by default, which caused failed virtual machines to be unresponsive and impossible to stop until they had completed the loop of 1000 trials. The default MaxRerunVmOnVdsCount is now set to 3, providing improved responsiveness if virtual machines fail.

BZ#617979¹³⁸

Previously, the objectClass filter was used to search for users in the Active Directory. Now, the filter used is sAMAccountType. Performing a search for users from the administration portal is now faster.

BZ#669401¹³⁹

Red Hat Enterprise Virtualization now supports the Westmere family of Intel processors.

¹³⁴ https://bugzilla.redhat.com/show_bug.cgi?id=611314

¹³⁵ https://bugzilla.redhat.com/show_bug.cgi?id=666712

¹³⁶ https://bugzilla.redhat.com/show_bug.cgi?id=622267

¹³⁷ https://bugzilla.redhat.com/show_bug.cgi?id=667659

¹³⁸ https://bugzilla.redhat.com/show_bug.cgi?id=617979

¹³⁹ https://bugzilla.redhat.com/show_bug.cgi?id=669401

BZ#[669421](#)¹⁴⁰

Previously, when a template was removed, it was simultaneously deleted from all storage domains and databases. You can now delete a template from one domain, but retain it in another, by using the **Storage** sub tab under the **Template** tab.

BZ#[616991](#)¹⁴¹

Red Hat Enterprise Virtualization Manager now supports the fencing of Dell blades using the drac5 power management type. In the administration portal, the 'Slot' field enables specification of strings which are diverted to the port parameter of the drac5 fence agent script.

BZ#[598082](#)¹⁴²

Previously, Red Hat Enterprise Virtualization Manager did not properly select another host as storage pool manager (SPM) for the data center when an old SPM was down or in a non-operational state. Red Hat Enterprise Virtualization 3.0 has changed the basic storage flows in the backend, and this issue no longer arises.

BZ#[641935](#)¹⁴³

Previously, Red Hat Enterprise Virtualization Manager did not save and persist the bonding options configured on a host, which caused networking to fail, or revert to basic defaults when the host was rebooted. Now, the bonding options are saved under vds_interface in the database, and persisted upon startup.

BZ#[614921](#)¹⁴⁴

Previously, Red Hat Enterprise Virtualization Manager did not support custom virtual machine boot options. Now, when creating or running a virtual machine from the administration portal, users can specify three Linux boot options: kernel path, initrd path and kernel parameters.

BZ#[613885](#)¹⁴⁵

Previously, the cluster compatibility version could not be changed if there were running virtual machines present in the cluster. Now, after a cluster CPU level change, virtual machines that were started before the change will continue to run with the pre-change CPU flags. This does not have an effect on their operation, but prevents the suspension of those virtual machine until they are powered off and then back on.

¹⁴⁰ https://bugzilla.redhat.com/show_bug.cgi?id=669421

¹⁴¹ https://bugzilla.redhat.com/show_bug.cgi?id=616991

¹⁴² https://bugzilla.redhat.com/show_bug.cgi?id=598082

¹⁴³ https://bugzilla.redhat.com/show_bug.cgi?id=641935

¹⁴⁴ https://bugzilla.redhat.com/show_bug.cgi?id=614921

¹⁴⁵ https://bugzilla.redhat.com/show_bug.cgi?id=613885

BZ#613058¹⁴⁶

Red Hat Enterprise Virtualization now supports virtual machines running Red Hat Enterprise Linux 3, 4, 5 and 6.

BZ#641881¹⁴⁷

Previously, VSDM detected users connected to a virtual machine from a guest agent. Now, when a user connects to a virtual machine via the SPICE or VNC console, the Red Hat Enterprise Virtualization backend is automatically updated with the user's information. It also cleans the client IP record when a user disconnects from the virtual machine.

BZ#613026¹⁴⁸

Previously, the Red Hat Enterprise Virtualization Manager event log only recorded actions performed in the administration portal and API. It did not elaborate on the changes made to the system. Now, the logs display more meaningful messages, including configuration changes, the user responsible for each action, severity levels and error numbers.

BZ#638548¹⁴⁹

Previously, Red Hat Enterprise Virtualization did not prevent hosts from being fenced until after a certain amount of time had elapsed. This effectively caused the host to shut down while it was still initializing. Red Hat Enterprise Virtualization now implements `DisableFenceAtStartupInSec` with a default of 300 seconds, which prevents hosts from being fenced while starting up.

BZ#607493¹⁵⁰

Previously, you could input a network name with a dash, which initiated an attempt to load the parent configuration. Dashes have now been disallowed when assigning network names.

BZ#611186¹⁵¹

Red Hat Enterprise Virtualization now provides a multi-level administration (MLA) system, which provides a hierarchical model for assigning levels of permissions on virtual resources for users.

BZ#612480¹⁵²

¹⁴⁶ https://bugzilla.redhat.com/show_bug.cgi?id=613058

¹⁴⁷ https://bugzilla.redhat.com/show_bug.cgi?id=641881

¹⁴⁸ https://bugzilla.redhat.com/show_bug.cgi?id=613026

¹⁴⁹ https://bugzilla.redhat.com/show_bug.cgi?id=638548

¹⁵⁰ https://bugzilla.redhat.com/show_bug.cgi?id=607493

¹⁵¹ https://bugzilla.redhat.com/show_bug.cgi?id=611186

¹⁵² https://bugzilla.redhat.com/show_bug.cgi?id=612480

Red Hat Enterprise Virtualization now supports non-migratable virtual machines. These machines are permanently associated with one host, and will not be migrated when the host is set to non-operational, but they are automatically restarted when the host is powered up after maintenance.

BZ#[687888](#)¹⁵³

Previously, you could edit and rename the Blank virtual machine template, which made it possible to lose the Blank template. Red Hat Enterprise Virtualization now prohibits editing of the Blank Template. If you try to edit the Blank template, an error message informs you not to do so.

BZ#[612478](#)¹⁵⁴

Red Hat Enterprise Virtualization now supports all Intel and AMD chipsets, including X2APIC architecture.

BZ#[612477](#)¹⁵⁵

Previously, the Red Hat Enterprise Virtualization Manager determined the host on which a guest should run based on the CPU flags set on the host. Now, the hosts are selected based on their CPU model as detected by qemu-kvm.

BZ#[611325](#)¹⁵⁶

Red Hat Enterprise Virtualization 3.0 supports SQL Server 2005 SP4.

BZ#[611203](#)¹⁵⁷

With the new multi-level administration system, only Super Users can assign administrative permissions on objects to other users. Conversely, Power Users can assign user permissions on objects to other users.

BZ#[611306](#)¹⁵⁸

Red Hat Enterprise Virtualization now has Java backend support.

BZ#[617982](#)¹⁵⁹

Previously, the Red Hat Enterprise Virtualization Hypervisor supported a maximum number of 8 NICs per virtual machine. Now, the number of NICs is no longer a limit, because

¹⁵³ https://bugzilla.redhat.com/show_bug.cgi?id=687888

¹⁵⁴ https://bugzilla.redhat.com/show_bug.cgi?id=612478

¹⁵⁵ https://bugzilla.redhat.com/show_bug.cgi?id=612477

¹⁵⁶ https://bugzilla.redhat.com/show_bug.cgi?id=611325

¹⁵⁷ https://bugzilla.redhat.com/show_bug.cgi?id=611203

¹⁵⁸ https://bugzilla.redhat.com/show_bug.cgi?id=611306

¹⁵⁹ https://bugzilla.redhat.com/show_bug.cgi?id=617982

there can be as many NICs as PCI devices per virtual machine. Each virtual machine supports 32 virtualized PCI devices, with 4 slots taken up by mandatory system devices.

BZ#[695300](#)¹⁶⁰

Red Hat Enterprise Virtualization now provides a Linux daemon for event notification services.

BZ#[695301](#)¹⁶¹

Red Hat Enterprise Virtualization now supports Identity, Policy and Audit (IPA) as a directory service for user authentication.

BZ#[695297](#)¹⁶²

Red Hat Enterprise Linux Virtualization now provides the `rhev-config` tool, which is a command line utility to replace a deprecated configuration editor.

BZ#[736334](#)¹⁶³

Red Hat Enterprise Virtualization Manager now has an internal administrator, `admin@internal`. This internal administrator is created during installation and has super user privileges.

BZ#[734032](#)¹⁶⁴

A previous version of Red Hat Enterprise Virtualization Manager had VNC set as the Blank template's default display protocol. The Blank template's default display protocol in Red Hat Enterprise Virtualization Manager is now set to SPICE.

BZ#[720444](#)¹⁶⁵

The history database has changed in Red Hat Enterprise Virtualization Manager. `guest_disk_size_mb` and `guest_used_disk_size_mb` have been removed from all views. A new column of type text has been added to the `vm samples\hourly\daily` history section. It contains JSON pattern type text that lists all the virtual machines' disk size properties.

BZ#[680159](#)¹⁶⁶

¹⁶⁰ https://bugzilla.redhat.com/show_bug.cgi?id=695300

¹⁶¹ https://bugzilla.redhat.com/show_bug.cgi?id=695301

¹⁶² https://bugzilla.redhat.com/show_bug.cgi?id=695297

¹⁶³ https://bugzilla.redhat.com/show_bug.cgi?id=736334

¹⁶⁴ https://bugzilla.redhat.com/show_bug.cgi?id=734032

¹⁶⁵ https://bugzilla.redhat.com/show_bug.cgi?id=720444

¹⁶⁶ https://bugzilla.redhat.com/show_bug.cgi?id=680159

Previously, the names of data centers did not display in the event log, instead they were replaced with the names of storage domains. Now, data centers' names are accurately recorded in the event log and the audit log.

BZ#[681211](#)¹⁶⁷

Previously, Red Hat Enterprise Virtualization did not provide cluster information in the Events log. Now, cluster information displays in the Advanced view of the Events log.

BZ#[683375](#)¹⁶⁸

Previously, the Red Hat Enterprise Virtualization Manager supported dual NICs, which allowed the same MAC address to be assigned to two NICs (a PV NIC and an RTL NIC) and were represented by the `rtl_pv` NIC type. The `rtl_pv` NIC type was used to circumvent the problem of attaching networks to the initial boot of a virtual machine when it did not contain the PV drivers by default. Red Hat Enterprise Virtualization 3.0 no longer requires the `rtl_pv` NIC type, hence the NIC type is no longer available.

2.6. History and Reporting

BZ#[612973](#)¹⁶⁹

Previously, Red Hat Enterprise Virtualization Manager did not store tag information in the history database. Now, tag information is stored in the history database, which allows users to build queries that include tag information.

BZ#[695311](#)¹⁷⁰

Red Hat Enterprise Virtualization now provides an installer for the history database, ETL service, and Jasper Reports.

BZ#[695312](#)¹⁷¹

Previously, Red Hat Enterprise Virtualization supported only SQL server syntax in its reports history database. Red Hat Enterprise Virtualization now supports PostgreSQL syntax in its reports history database, due to a move from SQL server to PostgreSQL on the backend.

BZ#[695310](#)¹⁷²

Red Hat Enterprise Virtualization now offers an rpm that packages Jasper Reports. You can download it with `"yum install rhevm,"` and then `"yum install rhevm-reports-dwh-1.0-10,"` `"rhevm-reports-jasperserver-1.0-10,"` and `"rhevm-reports-1.0-10"`.

¹⁶⁷ https://bugzilla.redhat.com/show_bug.cgi?id=681211

¹⁶⁸ https://bugzilla.redhat.com/show_bug.cgi?id=683375

¹⁶⁹ https://bugzilla.redhat.com/show_bug.cgi?id=612973

¹⁷⁰ https://bugzilla.redhat.com/show_bug.cgi?id=695311

¹⁷¹ https://bugzilla.redhat.com/show_bug.cgi?id=695312

¹⁷² https://bugzilla.redhat.com/show_bug.cgi?id=695310

BZ#695309¹⁷³

Red Hat Enterprise Virtualization now includes a postgres database (rhev-m-reports) and an ETL service for accessing the history database, using the following commands: "rhev-m-etl status," "rhev-m-etl stop," and "rhev-m-etl start".

BZ#695313¹⁷⁴

Red Hat Enterprise Virtualization now allows users to create custom reports which enable you to monitor the system.

2.7. REST API

BZ#635599¹⁷⁵

Red Hat Enterprise Virtualization now provides support for snapshots in REST API. You can now create snapshots and use them to restore virtual machines to previous states.

BZ#624243¹⁷⁶

REST API now provides network statistics on a per-virtual machine and per-host basis.

BZ#729310¹⁷⁷

Previously, the memory optimization policy of the cluster created upon installation was set to 'standard' by default. This disabled kernel samepage merging (KSM) and transparent huge pages (THP). Now, THP is enabled for the default cluster, and KSM is enabled when the cluster's memory usage reaches a specified level.

2.8. ISO Uploader

BZ#583477¹⁷⁸

In a previous version of Red Hat Enterprise Virtualization, the ISO uploader always picked the host running the storage pool manager (SPM) as the target location for ISO uploads, which caused storage problems if the host was carrying a heavy load. The new ISO uploader now copies the files directly to the ISO domain from the host running the uploader.

BZ#691742¹⁷⁹

¹⁷³ https://bugzilla.redhat.com/show_bug.cgi?id=695309

¹⁷⁴ https://bugzilla.redhat.com/show_bug.cgi?id=695313

¹⁷⁵ https://bugzilla.redhat.com/show_bug.cgi?id=635599

¹⁷⁶ https://bugzilla.redhat.com/show_bug.cgi?id=624243

¹⁷⁷ https://bugzilla.redhat.com/show_bug.cgi?id=729310

¹⁷⁸ https://bugzilla.redhat.com/show_bug.cgi?id=583477

¹⁷⁹ https://bugzilla.redhat.com/show_bug.cgi?id=691742

Red Hat Enterprise Virtualization now provides a new ISO uploader, known as `rhev-iso-uploader`. This command-line utility allows you to attach ISO images to ISO domains.

2.9. Log Collector

BZ#[691740](https://bugzilla.redhat.com/show_bug.cgi?id=691740)¹⁸⁰

Red Hat Enterprise Virtualization now provides a tool called `rhev-log-collector`, which allows you to collect relevant logs across the environment including the Manager and hosts.

¹⁸⁰ https://bugzilla.redhat.com/show_bug.cgi?id=691740

RHBA-2011:1818 — Windows Guest Tools

The bugs contained in this chapter are addressed by advisory RHBA-2011:1818. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHBA-2011-1818.html>.

3.1. General

BZ#[584295](https://bugzilla.redhat.com/584295)¹

Previously, if you installed the USB redirector (RHEV-USB), then canceled the installation or later uninstalled the USB redirector, the firewall exception which allowed USB redirection over TCP port 32023 remained on the guest. Now, if you cancel the installation or uninstall the USB redirector, the firewall exception is removed.

BZ#[598057](https://bugzilla.redhat.com/598057)²

Previously, the Windows guest tools agent performed a verification of a Windows guest tools ISO image before it would attach it to a guest. This verification does not validate any new (unsigned) files in the ISO image, and in the past, this meant that the validation would fail without installing anything on the guest. Now, the Windows guest tools agent installs the content that has been signed correctly and issues a warning for any files that are unsigned.

BZ#[608442](https://bugzilla.redhat.com/608442)³

The agent now encodes the application list in UTF-8.

BZ#[612434](https://bugzilla.redhat.com/612434)⁴

Previously, the `initlo.exe` and `logoff.exe` executable files were used by the Windows guest tools agent. However, the agent no longer uses these executable files, so they have been removed from the agent installer.

BZ#[617091](https://bugzilla.redhat.com/617091)⁵

Previously, the USB client was used by the Windows guest tools agent to perform USB authorization. The agent has been updated to use native USB authorization, so the agent no longer uses the USB client.

¹ <https://bugzilla.redhat.com/584295>

² <https://bugzilla.redhat.com/598057>

³ <https://bugzilla.redhat.com/608442>

⁴ <https://bugzilla.redhat.com/612434>

⁵ <https://bugzilla.redhat.com/617091>

BZ#617093⁶

Previously, the USB client was included as a part of the Windows guest tools agent installer. The client and the agent are now separate, so the USB client has been removed from the agent installer.

BZ#619021⁷

A new installer is available for the RHEV-Serial (vioserial) driver for all supported Windows operating systems.

BZ#619023⁸

A new installer is available for the RHEV-Serial (vioserial) driver for all supported Windows operating systems.

BZ#619031⁹

The RHEV-Serial (vioserial) driver is now installed on all supported Windows operating systems as part of the Windows guest tools installation.

BZ#619059¹⁰

Previously, the SPICE tools used the vdi_port driver, but it is no longer supported by Red Hat Enterprise Linux. Now, the SPICE tools use the vioserial driver, so the installation of the Windows guest tools ensures that you have the vioserial driver installed before proceeding with the installation.

BZ#619076¹¹

Previously, the Windows guest tools agent used hypercall, but it is no longer supported by Red Hat Enterprise Linux. Now, the Windows guest tools agent uses the vioserial driver, so the installation of the Windows guest tools ensures that you have the vioserial driver installed before proceeding with the installation.

⁶ <https://bugzilla.redhat.com/617093>

⁷ <https://bugzilla.redhat.com/619021>

⁸ <https://bugzilla.redhat.com/619023>

⁹ <https://bugzilla.redhat.com/619031>

¹⁰ <https://bugzilla.redhat.com/619059>

¹¹ <https://bugzilla.redhat.com/619076>

BZ#619292¹²

Previously, the Windows guest tools installation process set values for irrelevant IIS properties. These properties have been removed and are no longer set by the installation process.

BZ#620135¹³

Previously, if you installed the Windows guest tools on a Windows 2008 R2 guest, then reran the installation and selected "Modify", you would have an option to install or remove the SSO tool, even though it was not supported on Windows 2008 R2 guests. The installation process has been updated and you no longer have any options for the SSO tool on Windows 2008 R2 guests.

BZ#622010¹⁴

Previously, Red Hat Enterprise Virtualization Manager assigned the rtl_pv network interface card (NIC) to a virtual desktop by default. As a result, a virtual desktop was assigned two NICs (rtl and pv), each with the same MAC address. Now, the Red Hat Enterprise Virtualization Network installer assigns rtl NICs, and two active NICs with the same MAC address cannot be used simultaneously.

BZ#633816¹⁵

When you update the vioserial driver, the installation process stops all of the services that use it, then restart them after the update is complete.

BZ#637492¹⁶

Previously, the Windows guest tools installer wrote the agent registry key as "SOFTWARE\RedHat\RHEV\Tools\RHEV-Agent64". This has now been fixed and the registry key is written as "SOFTWARE\RedHat\RHEV\Tools\RHEV-Agent".

BZ#639702¹⁷

Previously, the Red Hat Enterprise Virtualization Linux guest agent ran in the foreground rather than the background on start up in Linux guests. Now, the Red Hat Enterprise Virtualization Linux guest agent starts as a background service on Linux guests.

¹² <https://bugzilla.redhat.com/619292>

¹³ <https://bugzilla.redhat.com/620135>

¹⁴ <https://bugzilla.redhat.com/622010>

¹⁵ <https://bugzilla.redhat.com/633816>

¹⁶ <https://bugzilla.redhat.com/637492>

¹⁷ <https://bugzilla.redhat.com/639702>

BZ#[639706](https://bugzilla.redhat.com/639706)¹⁸

Previously, the Windows guest tools agent would dump logs both to a log file and to the guest console. The agent has been updated and now dumps logs only to a log file to improve usability of the console.

BZ#[639709](https://bugzilla.redhat.com/639709)¹⁹

Previously, the Windows guest tools agent service could not be stopped gracefully because it was waiting for an event, which blocked all signals. The agent has been updated and you can now stop the service gracefully.

BZ#[641873](https://bugzilla.redhat.com/641873)²⁰

Previously, an administrator could shut down a 64-bit Windows 2003 virtual machine and no warning message would appear to users working on the guest, which could result in users losing their work. The Windows guest tools agent has been updated so that it now correctly displays a message to users before shutting down the virtual machine.

BZ#[641890](https://bugzilla.redhat.com/641890)²¹

Previously, the Windows guest tools agent did not report on the applications that are installed on the guest. The agent has been updated and now reports on the applications that are installed on the guest.

BZ#[649751](https://bugzilla.redhat.com/649751)²²

Previously, you would have to reboot Windows 7 guests after installing the RHEV-Tools package. The installation has been updated and you no longer need to reboot.

BZ#[663622](https://bugzilla.redhat.com/663622)²³

Previously, the Red Hat Enterprise Virtualization agent installer did not properly set the policy to allow services to simulate SAS on Windows 7 guests.

Now, the the policy to allow SAS by services is correctly set by the Red Hat Enterprise Virtualization agent installer.

¹⁸ <https://bugzilla.redhat.com/639706>

¹⁹ <https://bugzilla.redhat.com/639709>

²⁰ <https://bugzilla.redhat.com/641873>

²¹ <https://bugzilla.redhat.com/641890>

²² <https://bugzilla.redhat.com/649751>

²³ <https://bugzilla.redhat.com/663622>

BZ#664260²⁴

In previous versions of Red Hat Enterprise Virtualization, there was a problem using Single Sign On to Windows 7 guests from the user portal.

Now, Single Sign On to Windows 7 guests works correctly from the user portal.

BZ#674523²⁵

Previously, an attempt to upgrade guest tools in Windows guests running on Red Hat Enterprise Linux 5.x based hosts failed without any clear indication as to why.

Now, an error message is displayed indicating that guest tool upgrades should only be performed on guests running on Red Hat Enterprise Linux 6 based hosts.

BZ#679837²⁶

Previously, you could upgrade the Windows guest tools without upgrading your host to a supported version of Red Hat Enterprise Linux. Now, the tools upgrade process ensures that your host is at a supported version of Red Hat Enterprise Linux before allowing the upgrade to proceed.

BZ#681157²⁷

Not required.

BZ#683165²⁸

Previously, vdagent and SPICE were installed together, preventing the local mouse from being used when connecting to a Windows Server virtual machine.

The Red Hat Enterprise Virtualization Tools setup now installs SPICE separately on all supported platforms by default.

BZ#683432²⁹

Previous versions of Red Hat Enterprise Virtualization produced log files containing typos during the "tools" installation from ISO.

With Red Hat Enterprise Virtualization 3.0, the log files for "tools" installations no longer contain typos.

²⁴ <https://bugzilla.redhat.com/664260>

²⁵ <https://bugzilla.redhat.com/674523>

²⁶ <https://bugzilla.redhat.com/679837>

²⁷ <https://bugzilla.redhat.com/681157>

²⁸ <https://bugzilla.redhat.com/683165>

²⁹ <https://bugzilla.redhat.com/683432>

BZ#706714³⁰

Previously in Red Hat Enterprise Virtualization, the dialogue displayed after a guest tools installation on a Windows guest was inadequately sized.

Now, the dialogue displayed after guest tools installation has enough room to properly display all text.

BZ#729571³¹

In previous versions of Red Hat Enterprise Virtualization, it was difficult to track the version of the guest tools ISO and executable, as they were named 'RHEV-tools', and 'RHEV-toolsSetup' respectively.

Now, the ISO file name includes the version number.

3.2. SPICE Guest Agent

BZ#683164³²

A new installer is available for the SPICE agent, which enables the local mouse when connecting to a Windows Server virtual machine.

BZ#683166³³

Previously, you could not start the SPICE agent on Windows Server guests if the QXL driver was not installed. This dependency has been removed and you can now use the SPICE agent on Windows Server guests without the QXL driver.

BZ#691421³⁴

Previously, upgrade from the 2.2 version of the SPICE agent to the 3.0 version failed on 32-bit Windows 7 and Windows XP guests. The upgrade process has been updated and you can now upgrade successfully.

BZ#719140³⁵

³⁰ <https://bugzilla.redhat.com/706714>

³¹ <https://bugzilla.redhat.com/729571>

³² <https://bugzilla.redhat.com/683164>

³³ <https://bugzilla.redhat.com/683166>

³⁴ <https://bugzilla.redhat.com/691421>

³⁵ <https://bugzilla.redhat.com/719140>

Previously, using the SPICE agent on Windows 7 guests could result in unexpected behavior, such as some features of the agent not working. This was caused by a bug in the VDService agent where services would be run in a different thread than the main service thread, which resulted in a race condition. The agent has been updated and services are now run in the main service thread, so the agent performs as expected.

BZ#[722980](https://bugzilla.redhat.com/722980)³⁶

Previously, using the SPICE agent on Windows 7 guests could result in unexpected behavior, such as some features of the agent not working. This was caused by a bug in the VDService agent where services would be run in a different thread than the main service thread, which resulted in a race condition. The agent has been updated and services are now run in the main service thread, so the agent performs as expected.

BZ#[725734](https://bugzilla.redhat.com/725734)³⁷

Previously, if you were running the SPICE agent on Windows guests and left the SPICE session idle, the mouse would become unavailable because the driver would complete pending read operations, which resulted in error codes that made the agent hang. The agent has been updated to ignore these particular error codes and the mouse now behaves as expected.

3.3. SPICE Video Driver

BZ#[595306](https://bugzilla.redhat.com/595306)³⁸

Previously, if you manually installed the SPICE driver on a 32-bit Windows 7 guest, the application name lacked the version_revision extension in the application list. Now, the application names display the version_revision information correctly.

3.4. SPICE USB Redirection

BZ#[587169](https://bugzilla.redhat.com/587169)³⁹

Previously, if you selected all of the features when installing the RHEV-Tools package, then later uninstalled the tools, the uninstall was incomplete and left multiple artifacts on the guest machines. Now, the uninstall is complete.

BZ#[593545](https://bugzilla.redhat.com/593545)⁴⁰

³⁶ <https://bugzilla.redhat.com/722980>

³⁷ <https://bugzilla.redhat.com/725734>

³⁸ <https://bugzilla.redhat.com/595306>

³⁹ <https://bugzilla.redhat.com/587169>

⁴⁰ <https://bugzilla.redhat.com/593545>

Previously, if you installed the USB redirector (RHEV-USB), then later uninstalled it, the firewall exception which allowed USB redirection over TCP port 32023 remained on the guest. Now, if you uninstall the USB redirector, the firewall exception is removed.

BZ#[637799](https://bugzilla.redhat.com/637799)⁴¹

Previously, the USB redirector (RHEV-USB) was installed on every Windows guest, even though it's required only for Windows 7 and Windows XP guests. The USB redirector is now installed only on Windows 7 and Windows XP guests as part of the Windows Guest Tools installation.

⁴¹ <https://bugzilla.redhat.com/637799>

RHEA-2011:1823 — SPICE Client

The bugs contained in this chapter are addressed by advisory RHEA-2011:1823. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHEA-2011-1823.html>.

4.1. SPICE Video Driver

BZ#[715005](https://bugzilla.redhat.com/715005)¹

Red Hat Enterprise Virtualization now provides debug info PDB files for the qxl driver for Windows guests to aid in issue analysis.

4.2. SPICE Client

BZ#[603435](https://bugzilla.redhat.com/603435)²

Previously, SPICE client did not properly escape commas, which meant that SPICE could not be opened if a Distinguished Name (DN) contained a comma.

The relevant Replace() methods were fixed, which means that DNs that contain commas do not now prevent SPICE from opening.

BZ#[611171](https://bugzilla.redhat.com/611171)³

Support for additional client platforms and web browsers has been added to this release of SPICE. With this update, the following Linux-based platform and browser combinations are now supported: Mozilla Firefox on Red Hat Enterprise Linux 5.5, Mozilla Firefox on Red Hat Enterprise Linux 5.6 and Mozilla Firefox on Red Hat Enterprise Linux 6.0. All Linux platforms are supported for both the i386 and x86_64 architectures. The following Windows-based platform and browser combinations are now supported: Internet Explorer 7 on Windows XP (32-bit only), Internet Explorer 8 on Windows 7 (32-bit and 64-bit) and Internet Explorer 8 on Windows 2008 R2 (32-bit and 64-bit).

BZ#[613071](https://bugzilla.redhat.com/613071)⁴

Previously, Red Hat Enterprise Virtualization did not provide spice windows client x64 support for its admin and user portals.

Furthermore, users could not access the admin portal from a windows x64 client machine. This was due to the following: The admin portal used WPF (.net byte-code). By default, when accessed admin portal, Internet Explorer (x86 and x64 versions) runs x64 presentation hosts for creating ActiveX (which has to be installed via the MSI installer). Using x86 ActiveX was impossible without a hack requiring write access to the registry, which write access could not be guaranteed on all machines.

SPICE Client, libraries, ActiveX, CAB/MSI installer, admin and user portals and build-system have all been adapted to support both x86 and x64 clients. SPICE Client can now

¹ <https://bugzilla.redhat.com/715005>

² <https://bugzilla.redhat.com/603435>

³ <https://bugzilla.redhat.com/611171>

⁴ <https://bugzilla.redhat.com/613071>

be launched from both x86 and x64 Internet Explorer sessions, both from admin portal and user portal.

BZ#613078⁵

Previously, SPICE client did not have basic clipboard support. Attempts to copy from SPICE to the clipboard or to paste from the clipboard to SPICE failed. SPICE Client support for text clipboard copy/paste has been added. SPICE Client now allows copying from the SPICE window to the clipboard and pasting from the clipboard to the SPICE window.

BZ#648137⁶

Red Hat Enterprise Virtualization now includes an x64 MSI installer for SPICE Client.

BZ#661637⁷

Previously, SPICE Client (Windows) would disconnect during a migration. SPICE Client no longer disconnects during a migration.

BZ#667398⁸

SPICE client displays a watermark when ALT is pressed for six seconds or more, which informs you that SPICE client is sending the ALT keystroke along with any other input keystroke.

BZ#667689⁹

Previously, video in Spice Client would sometimes flip upside-down when connecting to a guest from a Windows client. This was because video streams in Linux are oriented top-down, whereas `gdi_canvas_put_image` receives video streams in a down-top orientation.

The function `create_bitmap` was altered so that it now considers the orientation of the video stream, and this issue no longer presents.

BZ#667777¹⁰

Previously, logging into and then out of a "user" account on Windows7 x86 would cause the local mouse to stop responding, though no error would appear in the Event-Viewer and the associated service was reporting as up. A workaround was available: restarting Red Hat Enterprise Virtualization Spice Agent would solve the problem.

Logging into an then out of a "user" account on Windows7 x86 no longer causes the local mouse to stop responding.

⁵ <https://bugzilla.redhat.com/613078>

⁶ <https://bugzilla.redhat.com/648137>

⁷ <https://bugzilla.redhat.com/661637>

⁸ <https://bugzilla.redhat.com/667398>

⁹ <https://bugzilla.redhat.com/667689>

¹⁰ <https://bugzilla.redhat.com/667777>

BZ#668980¹¹

Previously, SPICE ActiveX (SpiceX) failed to connect to SPICE's client-named pipe, which terminated the client and returned an error code. This was because Windows 7 did not include the backend server in IE's list of trusted sites.

SPICE Client now sets the named pipe to low-integrity on Windows7, which allows SPICE ActiveX to connect successfully to SPICE Client even if the backend server is not in IE's list of trusted sites.

BZ#672460¹²

An error in the pthread library (wspice/lib64/pthreadVC2*.lib) used to result in occasional unexpected behavior, including crashes of the SPICE client. This library has been updated, and these issues no longer present.

BZ#673973¹³

Previously, you were unable to open the SPICE console from the user portal if VDA (vdagent) was not running.

It is now possible to open the SPICE console from the user portal if VDA (vdagent) is not running.

BZ#674532¹⁴

Previously in Red Hat Enterprise Virtualization, it was impossible to get out of fullscreen mode by pressing F11. This was because WM_KEYUP events were missing for SHIFT and F11.

GetAsyncKeyState is now called, which sets the KEYUP value correctly so that pressing SHIFT+F11 allows you to leave fullscreen mode.

BZ#693104¹⁵

A new rpm that is required to install Spice client msi x86 on the Red Hat Enterprise Virtualization Manager server on Red Hat Enterprise Linux 6 is now available. It contains the Spice client x86 components built in brew-win.

BZ#693106¹⁶

A new rpm that is required to install Spice client MSI x64 on the Red Hat Enterprise Virtualization Manager server on Red Hat Enterprise Linux 6 is now available. It contains the Spice client x64 components built in brew-win.

¹¹ <https://bugzilla.redhat.com/668980>

¹² <https://bugzilla.redhat.com/672460>

¹³ <https://bugzilla.redhat.com/673973>

¹⁴ <https://bugzilla.redhat.com/674532>

¹⁵ <https://bugzilla.redhat.com/693104>

¹⁶ <https://bugzilla.redhat.com/693106>

BZ#[701111](#)¹⁷

SPICE client is now compiled with ASLR protection.

BZ#[711979](#)¹⁸

A previous version of the SpiceClient executable file was misnumbered, and this mistake prevented proper file replacement during the upgrade to the latest version. SPICE versioning has now been made correct and consistent, and upgrades now replace files in the correct manner.

BZ#[738270](#)¹⁹

Previously in Red Hat Enterprise Virtualization, if migration time was greater than `ticket_expiration_time`, SPICE would fail to connect to the target.

When migration completed, SPICE client (`spice-client-win`) disconnected from the migration source and then connected to the target. SPICE client knew nothing about the migration until after the migration was successfully completed.

SPICE client now makes a connection to the target before the migration begins (when `client_migrate_info` is run). SPICE client remains actively connected to the source. If the migration completes successfully, the client disconnects from the source and begins communicating with the target. If the migration fails, the client disconnects from the target. From the time `client_migrate_info` is run to the time the migration completes, the source server handles no new client connection requests.

4.3. SPICE ActiveX Component

BZ#[634281](#)²⁰

Previously, SPICE client expected channel names of "main" and "inputs", though Red Hat Enterprise Virtualization Manager provided channel names of "smain" and "sinputs". This caused SPICE client to complain about bad channel names.

SPICE-X now renames the channel names in the following way: "smain" is renamed to "main" and "sinputs" is renamed to "inputs". SPICE client recognizes both "main" and "inputs", and the SPICE client no longer complains about bad channel names.

BZ#[647395](#)²¹

Previously, `SpiceX.cab` was not copied to `rhevmsvc\userportal-0.0.1a.war\com.redhat.rhevmsvc.userportal.UserPortal`. This prevented the User Portal from working properly.

¹⁷ <https://bugzilla.redhat.com/701111>

¹⁸ <https://bugzilla.redhat.com/711979>

¹⁹ <https://bugzilla.redhat.com/738270>

²⁰ <https://bugzilla.redhat.com/634281>

²¹ <https://bugzilla.redhat.com/647395>

SpiceX.cab is now copied to rhvm.ear\userportal-0.0.1a.war\com.redhat.com.rhvm.userportal.UserPortal. This functionality is provided by the spice-activex-win component.

BZ#648136²²

Red Hat Enterprise Virtualization provides logging for SpiceX, which can be found at %TEMP%\spicex.log.

BZ#667439²³

Previously, normal disconnection of SPICE Client (that is, disconnection cause by closing your SPICE window) would cause SPICE ActiveX (SpiceX) to report error code 359. This was the wrong error code and caused the user portal button for connecting the virtual machine to be disabled.

On normal disconnection, SPICE Client now waits for the client process to terminate before receiving an exit code. Proper reception of a valid exit code means that the user portal button for connecting the virtual machine stays enabled, which allows you to click it to start another SPICE Client to connect to the virtual machine.

BZ#693101²⁴

A new RPM that is required to install Spice ActiveX x86 on the Red Hat Enterprise Virtualization Manager server on Red Hat Enterprise Linux 6 is now available. It contains the SpiceX-x86 CAB file that was built in brew-win.

BZ#693103²⁵

A new RPM that is required to install Spice ActiveX x64 on the Red Hat Enterprise Virtualization Manager server on Red Hat Enterprise Linux 6 is now available. It contains the SpiceX-x64 CAB that was built in brew-win.

BZ#702926²⁶

Red Hat Enterprise Virtualization Manager portal can now differentiate between the case in which the agent times out because the server is too loaded or the guest agent (vdagent) is not running and the case wherein the agent suffers an error. Previously, both of these types of events translated to an error code of RDP_ERROR_CODE_TIMEOUT (1796).

SPICE client now returns "Error Code 10" when vdagent suffers an error.

BZ#722783²⁷

²² <https://bugzilla.redhat.com/648136>

²³ <https://bugzilla.redhat.com/667439>

²⁴ <https://bugzilla.redhat.com/693101>

²⁵ <https://bugzilla.redhat.com/693103>

²⁶ <https://bugzilla.redhat.com/702926>

²⁷ <https://bugzilla.redhat.com/722783>

A text file that contains the SPICE version number is now included as part of the SPICE rpm installation. This allows the User Portal to determine whether the version number is lower than the version number installed on the Red Hat Enterprise Virtualization Manager server, and to download the newer version in the event that it is.

BZ#[739756](https://bugzilla.redhat.com/739756)²⁸

The directory where spicex CAB files are installed has been renamed to org.ovirt.engine.

²⁸ <https://bugzilla.redhat.com/739756>

RHBA-2012:0020 — Red Hat Enterprise Virtualization Manager

The bugs contained in this chapter are addressed by advisory RHBA-2012:0020. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHBA-2012-0020.html>.

5.1. Installation

BZ#760980¹

Previously, when you ran "yum upgrade rhvm" without running "yum update rhvm-setup", the upgrade would fail without giving you an error message informing you of the failure.

Now, Red Hat Enterprise Virtualization Manager returns an error message if you try to run "yum upgrade rhvm" without first running "yum update rhvm-setup". The error message reads "Error: New rhvm-setup rpm available in yum. Please execute `yum update rhvm-setup` or use --force-current-setup-rpm"

5.2. User Portal

BZ#761459²

Previously, users of the basic view of the User Portal were unable to open SPICE consoles for running virtual machines.

Now, running virtual machines can be accessed using the SPICE console from the User Portal of the Red Hat Enterprise Virtualization Manager.

BZ#768722³

Previously, Red Hat Enterprise Virtualization Manager's User Portal would sometimes pass the wrong UsbListenPort value to SPICE if the client-browser connection was slow. This would prevent USB redirection from working.

Red Hat Enterprise Virtualization's User Portal now sends the correct UsbListenPort value, which ensures that "usbrdrctrl" starts correctly, ensuring that USB redirection works.

5.3. Backend

BZ#743574⁴

Previously, when you committed snapshots and restarted vds, vds would report in the audit log that the commit had failed. This happened because the backend received an

¹ <https://bugzilla.redhat.com/760980>

² <https://bugzilla.redhat.com/761459>

³ <https://bugzilla.redhat.com/768722>

⁴ <https://bugzilla.redhat.com/743574>

unexpected taskResult: SPM was re-elected when VDSM was restarted, which aborted all tasks and caused the taskResult returned to be 'cleanSuccess' instead of 'success'. Since the backend assumes that there is a problem unless it receives a taskResult of 'success', the vdsm log recorded failures when it received a taskResult of 'cleanSuccess'.

Alterations were made to pass a value of 'success' to the backend even when 'cleanSuccess' is, strictly speaking, a more accurate way of describing the taskResult.

Now, when you commit snapshots and restart vdsm, the backend receives a value of 'success' instead of 'cleanSuccess', which causes the audit log to record a success. This means that the audit log does not record that the commit has failed, and the backend no longer reports a successful snapshot commit as a failure.

BZ#748257⁵

Previously, Red Hat Enterprise Virtualization Manager sometimes failed to include identifying information in Virtual Desktop Server (VDS) error messages.

The manager has been updated and now provides clearer log messages in rhevm.log, VDS errors now include the VDS information.

BZ#751794⁶

Previously, when you removed the last storage domain in Red Hat Enterprise Virtualization, Data Centers were moved to Maintenance and the Storage Domain was held in a locked state. This meant that the Storage Domain was inactive, the Data Center was unresponsive, and an Error (5000) reported. If you tried to do this in iscsi storage while the domain was still locked, you got an Internal RHEVM Error of "Cannot find master domain". The storage domain became inactive and the Data Center became non-responsive, which meant that you had to manually activate the storage domain.

The Data Center is no longer moved to Maintenance while the Storage Domain is in a locked state.

BZ#761443⁷

The Red Enterprise Virtualization Manager did not previously log fencing actions, The manager has been updated and now logs each of the following actions to the audit log:

- * events where Red Hat Enterprise Virtualization Manager fences a host (including the reason for its fencing),
- * events where the user fences a host, and
- * events where the user manually confirms that a host is down.

BZ#761577⁸

Previously, creating a database name containing a hyphen (-) caused Red Hat Enterprise Virtualization installation scripts to fail. The installation scripts have been updated. It is now possible to create databases with names that contain one or more hyphens (-).

⁵ <https://bugzilla.redhat.com/748257>

⁶ <https://bugzilla.redhat.com/751794>

⁷ <https://bugzilla.redhat.com/761443>

⁸ <https://bugzilla.redhat.com/761577>

BZ#761598⁹

In previous versions of Red Hat Enterprise Virtualization, the SPICE console presented only a virtual machine's name, not a fully qualified domain name.

The name and domain of a virtual machine are now presented in the title bar of the SPICE console when opened from the User Portal of the Red Hat Enterprise Virtualization Manager.

BZ#770436¹⁰

When creating a pool of virtual machines and not enough space was available on the storage domain this would not be reported to the user via the UI. This made debugging the issue unnecessarily complex for the user.

The manager has been updated and if this failure is encountered it is correctly reported to the user via the event log in the UI.

5.4. REST API

BZ#755492¹¹

In Red Hat Enterprise Virtualization Manager, a status field for storage objects has been added under "Storage/API". This allows you to tell, for instance, whether a storage type is attached to a Data Center.

BZ#755499¹²

Previously, the Red Hat Enterprise Virtualization REST API required clients to supply network IDs and names when detaching NICs from hosts, though the backend could retrieve this information.

Red Hat Enterprise Virtualization's REST API no longer requires you to supply network IDs and names when detaching NICs from hosts.

BZ#755546¹³

Previously in Red Hat Enterprise Virtualization's REST API, there was no way to set a null scheduling policy. Selecting "None" as the scheduling policy caused "<scheduling policy></scheduling policy>" to be exported.

It is now possible to set a null scheduling policy in Red Hat Enterprise Virtualization's REST API by setting "<policy>None</policy>".

⁹ <https://bugzilla.redhat.com/761598>

¹⁰ <https://bugzilla.redhat.com/770436>

¹¹ <https://bugzilla.redhat.com/755492>

¹² <https://bugzilla.redhat.com/755499>

¹³ <https://bugzilla.redhat.com/755546>

BZ#755549¹⁴

Previously, Red Hat Enterprise Virtualization's REST API did not support functionality for destroying a storage domain (where "destroy" means "logical removal from the manager"), though the Red Hat Enterprise Virtualization User Interface did support such functionality.

Red Hat Enterprise Virtualization's REST API now supports functionality for destroying a storage domain.

BZ#755566¹⁵

Previously, it was not possible in Red Hat Enterprise Virtualization's REST API to add group permissions in the same way as user permissions. The API has been updated and the same mechanism is available for adding both group and user permissions.

BZ#755572¹⁶

Previously, creating a resource asynchronously in Red Hat Enterprise Virtualization's REST API caused `AbstractBackendCollectionResource.resolveCreated` to throw an NPE (Null Pointer Exception).

This issue has been fixed, and creating a resource asynchronously in Red Hat Enterprise Virtualization's REST API no longer causes `AbstractBackendCollectionResource.resolveCreated` to throw an NPE (Null Pointer Exception).

BZ#755576¹⁷

Previously, Red Hat Enterprise Virtualization Manager's REST API would not allow you to attach a network to a cluster by name.

Red Hat Enterprise Virtualization Manager's REST API has been updated and now allows you to attach a network to a cluster by name.

BZ#759831¹⁸

Previously, Red Hat Enterprise Linux's REST API did not properly interpret input boot sequences, which meant that you could not set the boot sequence with REST API.

The boot sequence was held in the data-structure: `java.util.EnumSet`, which does not maintain order. After the change, the boot sequence is held in a `java.util.LinkedHashSet`, which does maintain order. This ensures that Red Hat Enterprise Virtualization's REST API passes the boot sequence in the same order that the user specified.

¹⁴ <https://bugzilla.redhat.com/755549>

¹⁵ <https://bugzilla.redhat.com/755566>

¹⁶ <https://bugzilla.redhat.com/755572>

¹⁷ <https://bugzilla.redhat.com/755576>

¹⁸ <https://bugzilla.redhat.com/759831>

RHBA-2012:0029 — Red Hat Enterprise Virtualization Hypervisor

The bugs contained in this chapter are addressed by advisory RHBA-2012:0029. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHBA-2012-0029.html>.

6.1. Node

BZ#[782202](https://bugzilla.redhat.com/782202)¹

The hypervisor was incorrectly identifying itself as a beta release. The hypervisor has been updated and now reports the correct release information.

¹ <https://bugzilla.redhat.com/782202>

RHBA-2012:0048 — Red Hat Enterprise Virtualization Hypervisor

The bugs contained in this chapter are addressed by advisory RHBA-2012:0048. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHBA-2012-0048.html>.

7.1. Node

BZ#773675¹

Previously, when a NIC was added to a bridge LRO would not automatically be disabled if a bond was also present. The use of a bond and a bridge on top of NICs using LRO presented serious performance degradation. This update ensures that LRO is disabled on all NICs, avoiding this performance degradation issue.

BZ#773676²

Previously, registering to RHN during autoinstall would fail. This was due to the wrong RHN registration command being called. This patch changes this logic, calling the correct RHN registration command.

7.2. Hypervisor

BZ#782955³

Registering to RHN Satellite through the TUI would fail if only `https://<hostname>` was passed. This patch will dynamically add `/XMLRPC` to the end of url if it is not already there.

¹ <https://bugzilla.redhat.com/773675>

² <https://bugzilla.redhat.com/773676>

³ <https://bugzilla.redhat.com/782955>

RHSA-2012:0109 — Red Hat Enterprise Virtualization Hypervisor

The bugs contained in this chapter are addressed by advisory RHSA-2012:0109. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHSA-2012-0109.html>.

8.1. Node

BZ#781471¹

Previously it was possible to begin a hypervisor installation without any valid disks to install to.

Now, if no valid disks are found for hypervisor installation, a message is displayed informing the user that there are no valid disks for installation.

BZ#788223²

Previously the user interface for the Hypervisor did not indicate whether the system was registered with RHN Classic, or RHN Satellite. As a result customers could not easily determine the registration status of their Hypervisor installations.

The TUI has been updated to display the registration status of the Hypervisor.

BZ#788225³

Previously, autoinstall would fail if the firstboot or reinstall options were passed but local_boot or upgrade were not passed. Now, neither the local_boot or upgrade parameters are required for autoinstall.

¹ <https://bugzilla.redhat.com/781471>

² <https://bugzilla.redhat.com/788223>

³ <https://bugzilla.redhat.com/788225>

RHBA-2012:0110 — Red Hat Enterprise Virtualization Manager

The bugs contained in this chapter are addressed by advisory RHBA-2012:0110. Further information about this advisory is available at <https://rhn.redhat.com/errata/RHBA-2012-0110.html>.

9.1. Installation

BZ#769878¹

Previously the technical preview of the new web Administration Portal had to be manually updated to keep it up to date. This meant that the web administration portal would potentially break when the rest of the system was updated. The web administration portal is now installed by default and upgraded by the "rhev upgrade" script.

9.2. Administration Portal

BZ#772905²

The technical preview of the new web administration portal has been updated, enabling access to more functionality.

9.3. User Portal

BZ#769883³

Previously, SPICE sessions opened from the User Portal and Power User Portal always opened in a window. Users wishing to use full screen mode had to wait for the session to start and then press a hot key combination.

The User Portal and Power User Portal have been updated. The SPICE console options for a virtual machine now include a "Open in Full Screen" check box. When checked the resultant SPICE session will be opened in full screen mode.

BZ#772656⁴

Previously, when adding a disk to a virtual machine for the first time from the User Portal a Null Pointer Exception (NPE) would sometimes be encountered. This resulted in the mandatory "Disk Type" list field not containing any values and prevented the user from successfully adding the disk.

The User Portal has been updated to prevent the NPE which caused this issue from occurring. The list of disk types presented on the form is always populated.

¹ <https://bugzilla.redhat.com/769878>

² <https://bugzilla.redhat.com/772905>

³ <https://bugzilla.redhat.com/769883>

⁴ <https://bugzilla.redhat.com/772656>

9.4. REST API

BZ#744584⁵

A Null Pointer Exception (NPE) was previously thrown when querying the statistics for a host via the REST API before it had completed installation. The REST API has been updated and a valid response is now returned in this situation.

BZ#756325⁶

Previously when adding users using the REST API only the domain of the user performing the operation would be searched.

This meant that when trying to add a user from one domain using the REST API, with credentials of a user from another domain, the operation failed. The REST API has been updated to ensure that when a username is provided in UPN format the correct domain is derived from it and searched.

BZ#773304⁷

Previously the REST API returned LUN information for iSCSI storage domains, but not for FCP storage domains. This has been corrected and the REST API now returns LUN information for both storage domain types.

9.5. ISO Uploader

BZ#766500⁸

When the ISO upload utility successfully uploads a file to the ISO domain it is not always able to successfully trigger a refresh of the ISO listing in the manager. Previously the warning message generated in this case did not provide the user with a way to resolve the issue.

The warning message has been updated and now directs the user to use the "Refresh" button in the Administration Portal to resolve this issue, when it is encountered.

BZ#766502⁹

Previously, the manual page for the "rhev-iso-uploader" command contained an incorrect usage example. The example did not specify the destination for the ISO upload. The manual page has been updated and the example specifies all required parameters.

⁵ <https://bugzilla.redhat.com/744584>

⁶ <https://bugzilla.redhat.com/756325>

⁷ <https://bugzilla.redhat.com/773304>

⁸ <https://bugzilla.redhat.com/766500>

⁹ <https://bugzilla.redhat.com/766502>

9.6. History and Reporting

BZ#771376¹⁰

The ETL process previously compared the VDSM version information of hosts incorrectly. This resulted in the process periodically creating duplicate entries for all registered hosts. Queries related to the "host_configuration" view were also run more often than required, creating unnecessary CPU load. The way the ETL process compares the VDSM version information has been updated to correct these issues.

9.7. Backend

BZ#761587¹¹

When a user with the "PowerUserRole" attempted to grant the "UserRole" on their virtual machines to another user the error "User is not authorized to perform this action" was displayed. This prevented power users from granting access to their virtual machines to other users.

The relevant code has been modified and users with the "PowerUserRole" are now able to successfully grant the "UserRole" on their virtual machines to other users. No error is displayed.

¹⁰ <https://bugzilla.redhat.com/771376>

¹¹ <https://bugzilla.redhat.com/761587>

Appendix A. Revision History

Revision 1-13 Friday February 10 2012

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Include bugs for RHBA-2012:0029
Include bugs for RHBA-2012:0048
Include bugs for RHBA-2012:0109
Include bugs for RHBA-2012:0110

Revision 1-11 Thursday January 12 2012

Stephen Gordon sgordon@redhat.com

Include bugs for RHBA-2012:0020

**Revision 1-6 Wednesday December 14
2011**

Stephen Gordon sgordon@redhat.com

Included bugs for RHBA-2011:1783
Included bugs for RHBA-2011:1818
Included bugs for RHEA-2011:1823

Revision 1-0 Monday December 12 2011

Cheryn Tan cheryntan@redhat.com

Included bugs for RHEA-2011:1817

