Red Hat Enterprise Virtualization
3.1
Technical Notes

Technical Notes for Red Hat Enterprise Virtualization 3.1 and associated packages.
Edition 1

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Abstract

These Technical Notes provide documentation of the changes made between release 3.0 and release 3.1 of Red Hat Enterprise Virtualization. Subsequent advisories that provide enhancements, provide bug fixes, or address security flaws are also listed. They are intended to supplement the information contained in the text of the relevant errata advisories available via Red Hat Network.
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Preface

These Technical Notes provide documentation of the changes made between release 3.0 and release 3.1 of Red Hat Enterprise Virtualization. They are intended to supplement the information contained in the text of the relevant errata advisories available via Red Hat Network. Red Hat Enterprise Virtualization 3.x errata advisories are available at https://rhn.redhat.com/errata/rhel6-rhev-errata.html.

A more concise summary of the features added in Red Hat Enterprise Virtualization 3.1 is available in the Red Hat Enterprise Virtualization 3.1 Manager Release Notes.
Chapter 1. RHSA-2012:1506 — Red Hat Enterprise Virtualization Manager

The bugs contained in this chapter are addressed by advisory RHSA-2012:1506. Further information about this advisory is available at https://rhn.redhat.com/errata/RHSA-2012-1506.html.

1.1. Administration Portal

**BZ#567580**

Previously, a virtual machine or template could not be imported if it was already present in the Red Hat Enterprise Virtualization environment. A new feature has been made available that allows virtual machines and templates to be imported into the Red Hat Enterprise Virtualization environment, including into different data centers, even if that virtual machine or template is present in the environment.

**BZ#631999**

A new feature is available that decouples virtual disks from virtual machines, allowing for floating disks that can be attached to another virtual machine. Any virtual disk can enter a floating state by detaching the disk from the virtual machine.

**BZ#724807**

A new feature is available that displays LUNs in a disabled capacity in the user interface if they are already a part of a storage domain in the environment, are functioning as DirectLUN disks in the environment, or have a status of 'Unusable'. Used LUNs are marked as such in the 'In Use' column of the 'Add Virtual Disk' window. Selecting a LUN with a 'Used' status displays a warning that the LUN is already part of a storage domain.

**BZ#743471**

A new control has been added to the 'Edit Virtual Disk' window that allows users to change the interface of the virtual machine to either IDE or VirtIO.

**BZ#749305**

Previously, it was not possible for users to change multiple monitor settings in non-Windows virtual machines. A restriction has been removed in SPICE to allow users to change multiple monitor settings in non-Windows virtual machines.

**BZ#798943**
Web Admin Portal localization is a new feature that allows the ability to translate the Web Admin Portal to other languages using the properties files.

**BZ#803246**

A new feature has been made available that integrates JasperReports into the Web Admin Portal. A context menu/drop-down menu has been added that opens reports for relevant entities in the Red Hat Enterprise Virtualization environment. Users can right-click on data centers, clusters, hosts, storage domains, and virtual machines and select the relevant report.

**BZ#803247**

A new feature has been made available that displays an overview of certain resources based on information from JasperReports. Choose 'System' or a specific data center or cluster in tree mode and select the Dashboard resource tab to display the relevant dashboard.

**BZ#803497**

A new feature is available that allows users to connect to a virtual machine using a VNC console.

**BZ#809800**

The windows for creating and editing virtual machines in the user interface have been updated to improve the controls used for specifying the number and configuration of virtual CPUs to assign. Drop-down menus have been added to select the 'Cores per Virtual Socket' and 'Virtual Sockets'.

**BZ#852057**

The 'Run Once' window has been updated to improve user experience.

**BZ#862370**

The user interface for the Administration and User Portals is now available in Japanese (ja).

**BZ#866148**

The user interface for the Administration and User Portals is now available in Spanish (es).
The user interface for the Administration and User Portals is now available in French (fr).

**BZ#866151**

The user interface for the Administration and User Portals is now available in Simplified Chinese (zh-Hans-CN).

### 1.2. Backend

**BZ#514657**

CPU pinning has been added as a feature. CPU pinning allows virtual CPUs in a virtual machines to be assigned to specific physical CPU cores in order to prevent CPU overload.

**BZ#514659**

Disk sharing has been added as a feature. You can now create a shared disk image that can be added to multiple virtual machines.

**BZ#514666**

A live snapshot feature has been implemented in across Red Hat Enterprise Virtualization and oVirt. Virtual machines no longer have to be shut down for snapshots.

**BZ#520698**

Virtual machine pools now feature prestarted virtual machines. The number of prestarted virtual machines is determined by the size of the virtual machine pool and can be set in the 'Edit Virtual Machine Pool' window.

**BZ#525307**

Initial support for storage live migration is available in Red Hat Enterprise Virtualization 3.1. This allows migration of virtual machine disks to different storage devices without first shutting the virtual machine down. This functionality is offered as a technology preview.

**BZ#563098**

Back-end operations are now provided with a correlation-id, connecting the action to the audit log. If a correlation-id is not provided, the back end will produce one. The event log will store the relevant job-id as reference for specific jobs as a correlation-id could spread over several jobs or actions.
BZ#563300

A new feature has been made available that allows users to create virtual machines from a virtual machine snapshot. By creating a virtual machine from snapshot, the user will be able to create virtual machines that are copies of a given point of time of other virtual machines. If the original virtual machine was created from a template, the snapshot-cloned virtual machine will not reference the template.

BZ#581266

A new feature has been made available that allows for hotplugging and unplugging a NIC to/from running guest virtual machines. This feature is restricted to 3.1 and above cluster, and the Windows7, Windows7 x64, Windows2008, Windows2008 x64, Windows2008R2 x64, RHEL5, RHEL5 x64, RHEL6 and RHEL6 x64 operating systems.

BZ#600475

A new feature has been made available that allows users to edit the MTU setting in the 'Edit Logical Network' window. It is now possible to set jumbo frames for the logical network.

BZ#600477

It was not previously possible to have bridgeless networks in a Red Hat Enterprise Virtualization environment as the bridge setup was automatic. Users can now select the 'VM network' check box in the 'Edit Logical Network' window to implement the network over a bridge. Clearing this check box will implement a bridgeless network.

BZ#610519

Previously, it was not possible in Red Hat Enterprise Virtualization to limit the resources each user had access to. Red Hat Enterprise Virtualization Quota was developed to allow system administrators to limit the amount of resources each user has access to.

(An example of a use case: a pool of (v)CPUs, memory resources, and storage resources can now be created by a data center administrator, and individual users can be assigned to this pool as consumers. Consumers associated with this pool are able to draw on resources only from this pool when creating and starting virtual machines. When all resources in the pool have been consumed, further actions that draw on the pool will be denied.)

It is now possible for system administrators to set Quotas in Red Hat Enterprise Virtualization, which permits the limitation of resources available to consumers.

BZ#676140
A new field has been added to the user interface and the OVF. Users can now view the creation and export dates and times of the virtual machines in the export domain.

BZ#676331

A new feature is available that allows cancellation of virtual machine migration. Users can cancel the action while migration is in progress.

BZ#681599

It is now possible to detach a disk from a virtual machine and delete it without affecting the running status of the virtual machine. The virtual machine is immediately available for re-use and the disk can be wiped or deleted in the background.

BZ#689363

It was previously possible for a second user to connect to the console of a virtual machine already in session. A control has been implemented that will deny access to the second user unless the virtual machine is first power cycled or unless a special flag is activated in the virtual machine to allow this reconnection.

BZ#706494

Previously, all domain users could log in to the User Portal, regardless of permissions held by that user. The LOGIN-PERMISSIONS action group has been added and appears by default in all roles. Now, when an administrator adds a user with permissions, the user can access the User Portal.

BZ#707698

A new feature is available that allows file injection to a virtual machine via the API. The file will be present in the Floppy/CD-ROM device of the virtual machine.

BZ#709060

A new feature is available that allows users the ability to edit multiple networks with one command.

BZ#715193

A new feature is available that supports case-insensitive search queries in the Red Hat Enterprise Virtualization Manager. Users can now use upper-case, lower-case, and mixed values in search queries and yield the same results.
A new feature is available that allows users to add or import a virtual machine with a duplicate MAC address via the AllowDuplicateMacAddresses configuration value.

Red Hat Enterprise Virtualization Manager logs are now compressed when rolled back.

Auto-recovery is a new feature for the Red Hat Enterprise Virtualization Manager that allows hosts to be recovered automatically after a temporary failure. Hosts previously had to be restarted manually.

The Intel SandyBridge Family CPU has been added at the cluster level.

The AMD Bulldozer Family CPU has been added at the cluster level.

A new feature has been made available to support the Red Hat Directory Server as a Lightweight Directory Access Protocol provider. This feature allows the engine to work with the Red Hat Directory Server for user management. Administrators can now add Red Hat Directory Server-based domains using the 'rhevm-manage-domains' utility.

In previous releases the VDSM bootstrap process retrieved utility scripts from the Manager using the HTTP protocol. This exposed virtualization hosts being added to the environment to a potential man in the middle attack. In Red Hat Enterprise Virtualization 3.1 the utility scripts are pushed to hosts using the SSH protocol. This updated bootstrap process prevents man in the middle attacks.

All SPICE channels are now encrypted by default. The SPICE channels are now secured in the engine configuration upon installation, and on the 3.1 cluster.
BZ#796544

Red Hat Enterprise Virtualization clusters running in 3.1 compatibility mode now use the enhanced emulation mode of qemu-kvm provided by Red Hat Enterprise Linux 6.3.

BZ#796705

Red Hat Enterprise Virtualization now supports a direct upgrade of V1 storage domains to the V3 domain format.

BZ#799723

The Task Manager is a new feature that displays actions running on the oVirt engine server. The actions are presented in the Tasks view of the Web Admin Portal, where the status and progress are monitored. The Task Manager monitors actions and their synchronous and asynchronous tasks.

BZ#799726

A new feature has been made available that stabilizes device addresses on a guest virtual machine. VDSM now reports device addresses to the oVirt engine, which persists the addresses and reports it as part of the virtual machine configuration on the next run. This feature prevents warnings or reactivation when device addresses change and is particularly important for Windows guests.

BZ#799739

Auto-recovery is a new feature for the Red Hat Enterprise Virtualization Manager that allows storage domains to be recovered automatically after a temporary failure. Storage domains previously had to be restarted manually.

BZ#800479

A new feature is available that enables memory balloon for all virtual machines in 3.1-and-higher clusters. Memory balloon is a guest device, which may be used to redistribute or reclaim the host memory based on virtual machine needs in a dynamic way. In this way it is possible to create memory over-commitment states. Every 3.1 virtual machine now has a memory balloon device by default. It is possible to disable it using the REST API.

BZ#803157

It is now possible via hooks to add custom code (hooks) before and after users set the virtual machine ticket. This makes it possible to associate virtual machines with floating disks templated with user account details.

BZ#803277
Support has been added for storage domains backed by POSIX compliant file systems. This support enables the use of file systems other than those already supported by Red Hat Enterprise Virtualization.

**BZ#803279**

A new feature has been made available that allows users to specify custom mount options when adding or editing NFS-backed storage domains.

**BZ#803283**

Port mirroring is a new feature that allows one virtual machine to monitor the network traffic of the host the virtual machine resides on.

**BZ#803466**

SPM Priority is a new feature that allows users to prioritize selected hosts for the role of Storage Pool Manager.

**BZ#809814**

Previously, Red Hat Enterprise Virtualization did not prevent MAC-spoofing. A virtual machine could impersonate other virtual machines, causing a traffic meant for a specific virtual machine to reach an unexpected destination.

Now, the Red Hat Enterprise Virtualization Manager exposes a global configuration property named EnableMACAntiSpoofingFilterRules, which is set to "True" by default. With the EnableMACAntiSpoofingFilterRules property enabled, a filter that prevents spoofing gets added to a virtual machine network interface's XML definition.

**BZ#810675**

Support has been added for optional networks in 3.1-and-higher Red Hat Enterprise Virtualization environments. Optional networks do not cause the host to be moved to a status of 'Non Operational' if the network is not available.

**BZ#814261**

Previously you could only define "Custom Properties" to a single virtual machine.

Now, you can define "Custom Properties" that apply to a pool of virtual machines.

**BZ#838300**
Previously, a host that had moved between data centers could have unsynchronized logical networks; the MTU, VLAN, and VM Network properties of a logical network could be defined differently in the new data center and the host. The host would require manual intervention to synchronize its logical network definitions with the data center's.

Now, you can see if a host's logical network definitions are out of sync with its data center logical network definitions, and synchronize them if desired using the "Setup Networks" action.

**BZ#848862**

The Red Hat Enterprise Virtualization Manager is now able to automatically detect time drift on virtualization hosts. To use this functionality, set these configuration values using the rhevm-config command:

* EnableHostTimeDrift - Enables time drift detection, the default value is false.
* HostTimeDriftInSec - Sets the maximum time drift allowable, in seconds, before an alert is raised. The default value is 300.

Each time the Red Hat Enterprise Virtualization Manager checks the state of the host, it compares the system time of the two systems, expressed in GMT. If EnableHostTimeDrift is true and the manager detects that the times returned differ by more than HostTimeDriftInSec, an alert is written to the log file.

A "VDS_TIME_DRIFT_ALERT" event is also raised, which can be tracked using the event notification daemon.

**1.3. General**

**BZ#809451**

Support has been added for NFS storage domains exported using NFS version 4 (NFSv4).

**1.4. Installation**

**BZ#619360**

ntpd is now installed and configured upon host installation.

**BZ#782004**

The installation of the Red Hat Enterprise Virtualization Manager is now supported by JBoss Enterprise Application Platform 6.

**BZ#789700**
The Windows Presentation Framework (WPF) user interface used to present the Administration Portal in earlier releases of Red Hat Enterprise Virtualization Manager has been replaced.

The new Administration Portal user interface is presented using a combination of HTML and JavaScript.

BZ#799707

A new feature has been made available that checks data center and cluster versions before an upgrade. An exception is raised if the 2.2 version is found.

BZ#799709

A new feature has been made available that enables Red Hat Enterprise Virtualization Manager to utilize default HTTP/S ports 80/443 for installation. If the httpd configuration files have been altered it is assumed the httpd is in use, in which case the user will be prompted as to whether the httpd configuration files can be overridden.

BZ#799710

A new feature has been made available that supports installation using a remote PostgreSQL server.

BZ#799722

The all-in-one plug-in has been made available. This plug-in allows for the installation of the Red Hat Enterprise Virtualization Manager on the same node as VDSM. A single machine can now run a Red Hat Enterprise Virtualization environment for proof of concept.

BZ#800397

In previous releases the rhevm-setup utility generated 1024 bit RSA keys for the Red Hat Enterprise Virtualization Manager certificate authority. The rhevm-setup utility has been updated and now generates 2048 bit RSA keys for the certificate authority.

BZ#803242

Support for upgrading from Red Hat Enterprise Virtualization 3.0 to 3.1 has been added to the rhevm-upgrade utility. For more information on upgrading to Red Hat Enterprise Virtualization 3.1 refer to the Installation Guide.
1.5. REST API

Previously, to delete a template that had multiple instances, users had to delete all instances of the template in the environment. It is now possible to delete selected instances of a template, or all instances, when a template resides in multiple storage domains.

A new feature has been made available to allow asynchronous delete operations, to be used for long-running operations such as 'wipe on delete' disk. The operation is approved by the REST API but is not immediately executed.

A new feature is available that allows users to add a maximum number of search results returned by the REST API. A matrix parameter such as ".../api/vms;max=200" specifies a maximum search result of 200.

A new status field has been added to the REST API that displays when a storage domain is not attached to a data center.

A new feature has been added to allow sessions in the REST API. Users can now log in and perform multiple requests in the same session. A session can remain open until it is closed for inactivity.

A new feature has been added to the REST API that displays the number of sockets a host has.

A new feature has been added to the REST API that displays host memory.

A new feature has been made available that exposes the Red Hat Enterprise Virtualization Manager time in the REST API.
A new feature has been added that allows users to add a virtual machine
using the host name, as opposed to the host id, in the REST API.

BZ#783087

The REST API now supports non-admin user login.

1.6. User Portal

BZ#692270

Previously, Red Hat Enterprise Virtualization user portal did not provide
context-sensitive help.

Red Hat Enterprise Virtualization user portal extended view now provides
context-sensitive help, which you can access by clicking the small blue
circle containing the question mark in the upper-right side of any dialog
opened within the user portal extended view.

BZ#707582

The 'Enable WAN Options' check box has been added to the 'Edit Console'
window. It is visible upon the following conditions: the selected virtual
machine is a Windows virtual machine, SPICE is available, the SPICE radio
button is selected, and the SPICE guest agent is installed on the virtual
machine.

When the 'Enable WAN Options' check box is selected, "WANDisableEffects"
and "WANColorDepth" from the vdc_options table are set to the SPICE plugin
as the "DisableEffects" and "ColorDepth" properties.

BZ#745006

Progress animations have been added to the User Portal to indicate that an
action is in progress.

BZ#798942

User Portal localization is a new feature that allows the ability to
translate the User Portal to other languages using the properties files.

BZ#803458

Native USB support is a new feature that been added to SPICE. Users can
select 'Native' or 'Disabled' USB support for Linux virtual machines or
'Native', 'Legacy', or 'Disabled' for non-Linux virtual machines in 3.1-and-
higher clusters.
**BZ#810484**

The screen for logging into the User Portal now attempts to set the default value of the domain field based on the selection used for your previous login attempts.

**BZ#819632**

It is now possible for users to clone virtual machines from the User Portals. Previously this functionality was only available from the Administration Portal.

**BZ#839230**

In previous releases it was possible for users to pin their virtual machines to specific hosts from the User Portals.

This functionality is now only available to users with administrative access to the Administration Portal or the REST API.
Chapter 2. RHSA-2012:1508 — VDSM

The bugs contained in this chapter are addressed by advisory RHSA-2012:1508. Further information about this advisory is available at https://rhn.redhat.com/errata/RHSA-2012-1508.html.

BZ#567077

Previously, VDSM threw a UnicodeEncodeError exception when it encountered unicode characters in user-provided data. This meant that Red Hat Enterprise Virtualization Manager was unable to support the use of non-ASCII characters. VDSM has been updated and now supports unicode characters.

BZ#723941

Previously, in some cases in which LUNs were connected to hosts, vgs and vgck commands were constantly issued, causing CPU spikes on the hosts. VDSM has been updated, and the CPU-usage no longer spikes.

BZ#725967

Previously, when VDSM called the python fork() function, it caused the child function to keep a copy of the memory that the parent function was already tracking. Each child process within multiprocessing had an entire copy of the parent, which led over time to copy-on-write differences. Each time VDSM used a python fork() command, an unacceptable amount of memory was consumed.

A patch has been provided that uses fork() more intelligently, and memory is no longer consumed at an unacceptable rate when the fork() function is called.

BZ#734184

Previously in VDSM, the host would fail to acquire the Storage Pool Manager (SPM) because several processes were racing each other for SPM status. The code that caused this situation has been altered, and the host now acquires SPM status as intended.

BZ#736034

VDSM previously stored physical-volume metadata on only the first physical volume. Space was not reserved on any other physical volume for metadata. This situation could result in storage instability in cases in which the first physical volume was removed.

VDSM now pre-allocates storage for metadata on all physical volumes.

BZ#743108

VDSM now supports setting MTU higher than 1500. (VDSM now supports Jumbo Frames.)
BZ#746766

Previously, if the /root/.ssh directory was missing from a host when it was added to a data center, the directory was created with an incorrect SELinux context and ssh to the host was denied. Now, the SELinux context of /root/.ssh is properly set after the host is added to a data center and the host acts accordingly.

BZ#752470

Previously, when the SPM lost its connection to the storage machine, VDSM became unresponsive for up to two minutes. The storageRefresh thread had been updated so that VDSM initialization and responsiveness is sped up.

It now takes less than a minute for getVdsCaps to return the status of the storage machine in situations in which the SPM loses its connection to the storage machine.

BZ#753625

vdsm-4.9 ignored the "displayNetwork" parameter when starting a virtual machine. This fix ensures that the "displayNetwork" parameter is honored and that VNC/SPICE traffic is routed over it, preventing VNC/SPICE traffic from being routed over other networks.

Note that once a virtual machine is started on a host that honors the "displayNetwork" parameter it will not be possible to migrate the virtual machine to a host that does not. Additionally, if or when the display network is changed a VNC/SPICE connection that is already active beforehand will not change network.

BZ#754445

A race condition previously meant that in some circumstances VDSM's resource manager would grant a request without first releasing the required locks. This resulted in a deadlock preventing the request(s) from ever being actioned.

The resource manager has been updated to handle the locks correctly and this race condition has been eliminated.

BZ#755596

VDSM does not persistently save rollbacks on the disk during the snapshot merge process. Because the merge process has an unrecoverable point, all rollbacks should be removed at this point. Restarting VDSM during merging causes the rollbacks to run, and this erases the image.

Rollbacks are now saved persistently on the disk after every change. When VDSM is restarted after the unrecoverable point but before the end of the merge process, the worst damage is that the image is broken (but there is no data loss). As long as there is no data loss, GSS is able to manually restore the image and link it to the persistently-saved data.
Previously, a race condition caused VDSM to become stuck in a non-up state if a virtual machine died while retrieving details from libvirt. VDSM has been patched, and VDSM is no longer stuck in a non-up state when virtual machines die while retrieving details from libvirt.

A race condition previously meant that issuing shutdown or destroy virtual machine commands would sometimes result in an unexpected error from VDSM stating that the virtual machine could not be found. VDSM has been updated to handle these corner cases and not report this error condition unless it has actually occurred.

Previously, if a guest machine had a CD attached during the boot sequence, the guest showed an error when trying to migrate to an inactive ISO domain. An optional start-up policy for CDs and floppy disks has been added to prevent this error from occurring.

Previously, logs collected by the vdsm-4.9-112 package from Red Hat Enterprise Virtualization Hypervisor sometimes lacked a tree of the file system below the /rhev/data-center/ directory, since the /usr/bin/tree command was missing. With this update, a dependency for the tree command has been added to the VDSM spec file, ensuring that it is installed.

Previously, extending a storage domain would occasionally fail when more than one host was present in the data center. This was due to insufficient time to map the new LUN before getDevicesVisibility returned 'false' and the backend would disconnect the storage server.

Now, the storage in getDevicesVisibility is refreshed using forceIScsiRescan and it is possible to extend a storage domain in data centers containing more than one host.

Previously, when attempting to configure and mount a host to use NFSv4 with attached NFS ISO storage domains, there was an extraneous "/" postfix generated in validateStorageServerConnection. This resulted in the VDSM failing to recognise the domain and attempting to delete the mount point without unmounting, causing system instability. The "/" has now been removed which allows the mounting process to occur smoothly.
Previously, when attaching a storage domain, a race condition caused a "LOCKRENEWALINTERSEC" error, even though the associated key existed in the metadata file of the associated storage and the file was readable and writeable by the VDSM user. A patch to VDSM improved the implementation of storage server connection aliasing, and "LOCKRENEWALINTERSEC" errors no longer occur when you try to attach storage domains.

VDSM previously assumed Ethernet device names of the form eth*. This meant that VDSM failed to work as expected on systems with support for the biosdevname consistent device naming standards. VDSM has been updated to correctly detect the names of Ethernet devices on such systems.

VDSM previously always attempted to update SELinux attributes, even when SELinux was disabled. This caused the installation to fail.

The installation process has been modified to ensure that SELinux attributes are only modified if SELinux is enabled. This ensures that installation is still able to complete successfully when SELinux is disabled.

The speed with which VDSM is able to start Virtual Machines has been increased, particularly when using block-based storage (iSCSI, FibreChannel).

Previously, the LRO option was not disabled when attaching a bond to a bridge. This had a negative impact on network performance. The modprobe configuration for VDSM has been updated to ensure LRO is disabled for all Ethernet devices for which it is the default.

The vds_bootstrap script previously was unable to correctly handle interface configuration files that included a trailing newline. This prevented the script from correctly creating the management bridge interface, preventing the host from being successfully added to Red Hat Enterprise Virtualization Manager. The vds_bootstrap script has been updated to handle interface configuration files that include a trailing newline correctly.
Previously, deleting an NFS export containing metadata for an NFS storage domain produced an error that prevented the domain from going into maintenance mode. This meant the domain could not be destroyed without manual recovery operations. Now, the fault has been corrected to allow the destruction of NFS domains after removing metadata.

**BZ#787869**

Previously VDSM supported an 'after_vm_destroy' hook but there was no equivalent 'before_vm_destroy' hook. A 'before_vm_destroy' hook has now been added to VDSM.

**BZ#788860**

Previously, VDSM did not shut machines down gracefully because libvirt sent qemu a SIGKILL before qemu flushed its disk buffers. This led to guest disk image corruption. New virDomainDestroy flags have been introduced into Red Hat Enterprise Virtualization 3.1 that permit the graceful shutdown of virtual guests and ensure the preservation of guest data.

**BZ#797354**

The Hypervisor previously set the lro_disable option for enic driver. The driver does not support this option, as a result the Hypervisor did not correctly detect and configure the network interfaces of a Cisco M81KR adaptor, when present. The Hypervisor has been updated and no longer sets the invalid option for this driver.

**BZ#797526**

Previously, when attempting to restart a virtual machine through VDSM, the operation would fail, as the VDSM attempted to recover the virtual machine before it was re-connected to the pool. This caused the virtual machine to appear to be running in libvirt, but paused in the VDSM. Now, the evaluation occurs correctly so that the virtual machine is first re-connected to the pool before VDSM attempts to restart it.

**BZ#798188**

VDSM did not previously take into account the 'make' of a host's CPU when retrieving its capabilities. This made it possible to run AMD guests on Intel hosts, and Intel guests on AMD hosts, with unpredictable results. VDSM has been updated to return the 'make' of the host's CPU to prevent this from occurring.

**BZ#798463**
Previously, running dumpStorageTable.py on the SPM host returned a list of only Domains, Images, Volumes, and Templates. A modification was made to dumpStorageTable.py, so that dumpStorageTable now looks for the "vms" directory on the mastersd filesystem (and includes the data in the "vms" directory to the list that dumpStorageTable.py returns). Now, running dumpStorageTable.py returns a list including virtual machines, Domains, Images, Volumes, and Template (this means that "vms" is now listed). This will decrease the amount of time it takes to match virtual machines to their disks, and will thereby shorten the time it takes to investigate issues that arise.

**BZ#798635**

Previously, the getVGInfo call would only show a partial list of LUNs when adding storage domains consisting of more than one LUN. Subsequently the HSM would only log into the LUNs returned and HSM hosts became non-operational. Now, storage domains are added correctly and the LUNs are always returned.

**BZ#800367**

Previously, in the history database, the system_cpu_usage field was always reported as 0. This made monitoring cpu usage difficult. This patch not only ensures accurate reporting occurs but also separates virtual machine and system cpu usage statistics.

**BZ#802759**

Previously, a race condition in Python's subprocess Popen caused virtual machine creation to fail. A patch to VDSM prevents virtual machine failure when this race condition is present.

**BZ#804640**

Previously it was not possible to clone a virtual machine from a snapshot in the middle of a chain of snapshots (that is, a snapshot created after at least one snapshot had already been created). VDSM has now been updated to allow virtual machine cloning from snapshots in the middle of chains.

**BZ#807351**

Previously, when an ISO domain lost SPM connectivity, connection to the ISO domain would fail to restore even though the mount was eligible. A patch to VDSM ensures that ISO domains are autorecovered after their connectivity is restored.

**BZ#807642**
Previously, creating a storage pool on a host that was the SPM for another pool generated an unexpected exception, thereby stopping the SPM. The VDSM has been updated to remove the interaction between the two different pools, avoiding this conflict.

BZ#807687

Previously, due to an issue with pool metadata not refreshing correctly, attempting to put the HSM host into maintenance mode while reconstructing the master domain would result in the changes not being updated in the HSM. The pool metadata issue has been solved so that any changes and updates applied to the HSM in maintenance mode will be retained when it is reactivated.

BZ#808116

Previously, deleting a disk image by using the "wipe after delete" tag did not postzero the image upon deletion. Now the volume targeted by the "wipe after delete" tag postzeros the image.

BZ#808874

Previously, repoStats reported 'invalid master' even in cases in which the master was reachable. This was due to two race conditions: one was triggered by the master status, and the other happened during the startSpm/stopSPM method because the operations of mounting and unmounting the master domain was not atomic with the switch of the SPM role. These race conditions were resolved, and 'invalid master' is no longer reported in cases in which the master is reachable.

BZ#811807

Previously, virtual machines running on the host or vNIC hot-plug were vulnerable to spoof attacks unless network filter rules were enabled. This meant that virtual machines were able to impersonate other virtual machines, and that they could cause virtual machine traffic to be rerouted to destinations other than those intended by the Red Hat Enterprise Virtualization environment. VDSM now defines a custom rule called vdsm-no-mac-spoofing on libvirt nw-filter, which is comprised of two rules: no-mac-spoofing and no-arp-mac-spoofing. VDSM exposes the option to use the vdsm-no-mac-spoofing filter when running a virtual machine or when hot-plug vNIC is invoked. As a result, when VDSM is provided with the filter to be used when running virtual machines or activating vNICs, it now instructs libvirt to enforce the filters for the vNICs by defining etables rules that control traffic and prevent spoofing.

BZ#813897

Previously, the color scheme for the ovirt-engine screen was pink/purple/red. This made it difficult to read and use. This has been updated to a more user-friendly color scheme.
Previously when adding a Fibre Channel storage domain through the Red Hat Enterprise Virtualization Manager administration portal, the installation disk was presented as a valid Fibre Channel disk for the storage domain. Selecting the installation disk could cause data corruption. Now, a pop-up with approval latch is displayed, preventing unwanted data loss.

Previously, deleting snapshots failed and a second attempt to delete the snapshot hung when the deletion was "preparing to finish". This caused the associated virtual machine to become stuck in the "image locked" state for fifty hours until the associated task was declared a zombie and killed. A fix was implemented whereby teardown() was called when errors such as these presented. Attempts to delete snapshots no longer generate zombie tasks.

When a master domain was put into maintenance mode, the SPM was unable to find the master domain because the cluster lock was not locked and therefore could not be released. This caused the wrong master domain to be reported to the SPM. A patch to VDSM makes ClusterLock stateless. The SPM is now able to find the master domain after it has been put into maintenance mode.

Previously, VDSM did not include support for USB-2 controllers and USB device redirection over the network (this is a feature used by SPICE). Support for USB-2 controllers and USB device redirection over the network (used by SPICE) have been included in this VDSM package.

Previously in certain cases, attempts to create Fibre Centre protocol storage domains by using the New Domain window of the Red Hat Enterprise Virtualization Manager Administration Portal failed. This was because the procedure that created the Fibre Channel protocol storage domain introduced a space into the name of the device stored in /etc/multipath.conf, which prevented the device from being identified by the Red Hat Enterprise Virtualization environment. The function that generated the string including the space has been altered so that the space is now an underscore, and Fibre Channel protocol storage domains are now created correctly.
Previously, attempting to add a Red Hat Enterprise Linux 5 host via the Red Hat Enterprise Virtualization Manager resulted in a failure message describing "an unexpected keyword argument". This was caused by a change in Python, which did not have a delete argument for NamedTemporaryFile(). Now, the patch has updated so the argument works correctly and the install process can proceed without error.

BZ#822953

Previously, a unique id (UUID) was generated for a host using the BIOS UUID and the MAC address of one of the host's network cards. The UUID was used to identify the host when it registered with the Red Hat Enterprise Virtualization Manager. If the host was rebooted after having a networking change, for example a bond device was created or the network card was replaced, the host would use a different MAC address to generate and report a different UUID from the one it registered with the Manager. The host would then repeatedly fail attempts to re-register with the Manager, and require reinstallation.

MAC addresses are no longer used to generate UUIDs for hosts. Instead, the host's BIOS UUID is used. If the host BIOS does not have a UUID, a random UUID is generated using uuidgen. If multiple hosts have the same BIOS UUID, an error message is given in the Manager, and /etc/vdsm/vdsm.id must be edited manually to give the host a UUID. The contents of /etc/vdsm/vdsm.id are also used to override the automatically detected BIOS UUID.

BZ#826873

Previously, when running "setup networks" to add a NIC to a bond, or to remove a NIC from a bond, VDSM failed to resize the bond. VDSM has been updated and bonds can now be redefined without failure.

BZ#826921

The following parameter has been deprecated in the /etc/vdsm/vdsm.conf file:

```
[irs]
nfs_mount_options = soft,nosharecache,vers=3
```

This parameter will continue to be supported in versions 3.x, but will be removed in version 4.0 of RHEV. Customers using this parameter should upgrade their domains to V2 and greater and set the parameters from the GUI.

BZ#827486

Previously, when several virtual machines were migrated at once, a timing problem presented because _loadCorrectedTimeout did not take the doubler value into account when correcting the timeout. The new implementation does not start the timer until the virtual machine acquires the _ongoingCreations lock. This obviates the timing problem that presented previously.
Previously, the VDSM was able to attach several bridgeless networks to the same interface. It did not clean up old bridgeless networks, which sometimes caused connection errors as the VDSM attempted to configure the obsolete network. Now, configurations are restricted to either a single bridged non-VLANed network or a single bridgeless non-VLANed network plus any amount of bridged/bridgeless VLANed networks. This prevents unnecessary connection errors caused by old or unused networks.

Previously, virtual machines would move to a paused state when trying to create live snapshot on an iSCSI domain. Now, VDSM is changing the current leaf permission to read-only when creating a new volume. This fixes the issue of unwanted paused states.

Previously, when iSCSI master domains were created with NFS export domains (where the export domains were located on different storage servers) and connectivity to the export domain was blocked by means of iptables, VDSM stopped responding and the host became non-responsive while storage remained up. An update to VDSM makes sure that now the export domain is deactivated when iptables is used to block connectivity to the export domain.

Previously, when you ran many virtual machines and began to fill the host's memory on a cluster that had KSM enabled, the Shared Memory report in the Web Admin Portal would erroneously report that zero percent of the shared memory had been used. The Shared Memory report in the Web Admin Portal now correctly reports how much of the shared memory has been used.

Previously, after running autoinstall, the network connection was lost due to the removal of breth0. Now, breth0 is no longer removed after autoinstall, and the network connection is preserved after autoinstall.

Previously, the VDSM was unable to attach several VLANed networks to same NIC/bond interface. This upgrade allows multiple VLANed networks to be attached. In order to ensure network security this feature has been restricted to the following configurations: a single bridged non-VLANed network, or a single bridgeless non-VLANed network plus any amount of bridged/bridgeless VLANed networks.
Previously there was a typo in the text for "raise exception" that read "could not like to directory. Path does not exist." This has been corrected to read "could not link to directory. Path does not exist."

**BZ#833084**

Previously, a bug caused the Pool SPM ID value in the metadata file to become 'None'. This caused issues with identifying Pool SPMs. Now, the ID value is attributed correctly.

**BZ#833099**

In an earlier version of Red Hat Enterprise Virtualization, sometimes metadata on a host became corrupted and VDSM sent the engine a "general" exception. The pool SPM ID value was incorrectly set to "None". When this happened, VDSM threw a general exception saying "MetaDataParamError: Meta Data parameter invalid: ('Version or spm id invalid')". Now when this happens, the engine reconstructs the master. This repairs the metadata.

**BZ#833425**

On systems with AMD "Bulldozer" CPUs, the number of CPU cores reported always includes hyperthreads. This allows virtual machines running on the host to use up to double the recommended number of virtual CPUs. Additionally, this issue may lead to biased scheduling to favor affected hosts over others in the cluster if all hosts do not have the same number and type of CPU.

**BZ#833803**

Previously, if a network was detached using the VDSM, all bonds in place would also be released. Now, when using VDSM to detach networks, the option is available to either release the bond or leave it in place.

**BZ#834205**

Previously, when the addNetwork command was sent in VDSM and bridged=false, then BOOTPROTO, IPADDR, and NETMASK were not set on the ifcfg file representing the network being added. Now, addNetwork properly sets these options.

**BZ#835478**

Previously, the improved hooks mechanism for 3.1 could not work on 3.0 implementations of Red Hat Enterprise Virtualization. The hooks mechanism has now been changed so that hooks written for 3.1 can work on 3.0.
Previously, if the Red Hat Enterprise Virtualization Manager's IP address was set to "unreachable", the VDSM also became unreachable until it was restarted. Now, after checking connectivity time out, if the connectivity fails, the host correctly performs a rollback of network configuration and becomes reachable.

In an earlier version of Red Hat Enterprise Virtualization, when working with PosixFS (Gluster) and migrating data domains, the reconstruction of the data domains would sometimes fail. Sometimes when reconstruct commands were sent to VDSM, the storage domain acquired an "unknown" status and the status of the data center remained "UP". In this scenario, reconstruct and spmStart both succeeded on VDSM. This was because vds was sending "POSIXFS" instead of "SHAREDFS". VDSM has been now updated and storage migration now works as expected.

Previously, process limit errors would cause image corruption in some disks when migrating multiple disks from one domain to another. This has been corrected so that migrating multiple disks simultaneously between domains does not cause image corruption.

Previously, merging of snapshots failed. This was because a TypeError made it impossible to merge a base raw volume. A patch to VDSM now corrects the TypeError and it is possible to merge base raw volumes. Merging of snapshots no longer fails.

Previously, during bond resizes, the network would detach from the bond. This error presented only for bridged non-VLANed networks. Networks no longer detach from the bond during bond resizing.

Previously, creation of iSCSI storage domains caused VDSM to throw an error during the login to target command. This was because the Red Hat Enterprise Virtualization Manager REST API set the portal field to the wrong value. This issue presented only in VDSM-4.9.6-17.0.el6.x86_64. A patch to VDSM removes a conversion to int of the iSCSI portal parameter for two reasons: the parameter is not used in VDSM, and removing this avoids regressions. In new versions, the engine sends 0.

Creating iSCSI storage domains no longer causes VDSM to throw errors during the login to target command.
Previously, VDSM created files under /etc/sysconfig/network-scripts via sudo when configuring host networking. The files were created in the context of system_u:object_r:net_conf_t:s0 instead of system_u:object_r:bin_t:s0. This caused it to be impossible to acquire ip addresses via dhclient because the context mandated by SELinux was not provided. VDSM has been patched and now provides the context mandated by SELinux when creating ifcfg files.

Previously, when attempting to activate five or six storage domains at the same time, refreshStoragePool attempted to create a folder that already existed, which caused an "OSError [Errno 17]" to be thrown. This issue was caused by a race condition in fileUtils.createdir(). An updated version of VDSM now creates the target directory; if the target directory already exists, VDSM ensures that the directory has the correct permissions, and "OSError [Errno 17]" is not thrown.

SANLock was introduced in Red Hat Enterprise Virtualization 3.1, but there was no option to control the volume leases mechanism. This change provides a vdsms.conf option to enable control of the volume leases, but it is disabled by default.

A number of changes were made in Red Hat Enterprise Virtualization 3.1 to support V3 storage domain metadata, including:

* Moved the SANLock SDM lease to a different offset
* Added the hasHostId method to the cluster locks
* Fixed attachSD and masterMigrate for domain version 3
* No longer acquiring leases on shared volumes
* Added the async kwarg to acquireHostId
* Made domainMonitor compliant with PEP8
* Monitor the host id in domainMonitor

Previously, if the libvirt daemon crashed during Red Hat Enterprise Virtualization host setup, the installation would continue regardless. This resulted in a failure to create a bridge to the Red Hat Enterprise Virtualization Manager, making the host unresponsive and unusable. Now, a condition has been set so if the libvirt daemon crashes, the installation fails and can be started again properly.
Previously, when several virtual machines shared a disk on the same host, they would occasionally pause, throwing the error "XML Error: Attempted double use of PCI Address". An update to VDSM marks the shared disk as shareable, and VDSM now recognizes such disks as shareable. As a result, several virtual machines can now use the same shared disk without VDSM throwing the I/O errors.

BZ#840407

Previously, importing a virtual machine based on a template to an export domain that did not contain the template itself resulted in failure. This was because a fake volume was not created in the domain as it should have been. Now, a fake volume is correctly created, allowing a template virtual machine to run on any domain regardless of whether the template is present.

BZ#840594

Previously, hosts became non-operational when information was retrieved from engine-defined bridged networks that had been removed from the host. A fix has been implemented that catches the error caused by the attempt to retrieve information from the missing bridge, stopping the bridged network from being reported to the engine. In cases such as this, the host now becomes "unassigned" for bridged networks and "up" for non-required bridged networks.

BZ#841489

Previously, detachStorageDomain did not correctly detach Red Hat Enterprise Virtualization 3.0 ISO domains from pools. A patch to VDSM ensures Red Hat Enterprise Virtualization 3.0 ISO domains can now be correctly detached.

BZ#841863

Previously, when trying to scan for ISOS on an ISO domain, the VDSM logged an error and the scan failed. This patch corrects the import error and now ISO domains are scanned correctly and meaningful results are logged by the VDSM.

BZ#842338

Previously, VDSM failed to configure bonding mode until the network was restarted due to a change in the kernel semantics regarding asking for changes in bond mode. Now, the VDSM changes bond mode only when the bonding device is down, meaning the Red Hat Enterprise Virtualization Manager-configured bonding mode takes effect immediately.

BZ#842662
Previously, when there was a failed network configuration, the VDSM would not correctly roll back to the most recent successful configuration. This caused the Red Hat Enterprise Virtualization Manager to lose its connection to the VDSM host. Now, if a network configuration is incorrect, the previous settings will automatically be restored.

**BZ#842771**

Previously, the virtual machine's "mirror" and "mirrorPath" properties had a value of "None" rather than an empty string. This caused problems when restoring virtual machines from suspended states. The "mirror" and "mirrorPath" properties are now correctly set to empty strings, and this issue no longer causes the failure of virtual machines to restore from suspended states.

**BZ#843387**

Previously, it was impossible to start a virtual machine in the REST API if the data center contained an activated ISO domain. This was because the local variable 'volPath' was referenced before it was assigned.

It is now possible to start a virtual machine in the REST API if the data center contains an activated ISO domain.

**BZ#843498**

Red Hat Enterprise Virtualization 3.1 allows non-virtual-machine networks, implemented without a bridge. VDSM can now define and report both virtual machine networks and non-virtual-machine networks.

**BZ#844180**

Previously, deleting an iSCSI domain sometimes failed due to a race between discovering devices after connecting to the iSCSI target and trying to delete the domain. Now, formatStorageDomain performs a scan to make certain that all devices are detected, and iSCSI domains can be successfully deleted.

**BZ#844294**

Previously, a storage space error caused virtual machines on thin provision disks to enter a paused state during any operating system installation. This caused the installation to fail. This patch corrects the storage space error, allowing successful installation of any operating system.

**BZ#844656**

Previously storage errors could have influenced and stopped the storage domain statistics, freezing them at a point in time. A change has been made to increase the reliability of the domain monitor in order to provide the correct statistics even during failures.

**BZ#845193**

Previously, when you detached a bridged network from a NIC or bond, the BRIDGE line was not removed from the ifcfg-* .config files. This meant that the bridge network was effectively still connected to the NIC or bond. An update has been made to VDSM that makes sure that the BRIDGE line is removed from the ifcfg-* .config files when a bridged network is detached from a NIC or bond.

**BZ#845525**

Previously, when you added a bridged logical network to a cluster and you created a bond in mode=1, and you attached the bridged logical network to the bond, Red Hat Enterprise Virtualization Manager displayed the wrong bond mode. This was due to VDSM failing to report the BONDING_OPTS for the bonds, which caused the backend to be unable to resolve the bond mode. When this happened, the default behavior was to set the bond mode to "custom", which was incorrect.

Now, an update to VDSM makes sure that the bond mode is properly set.

**BZ#846004**

Previously, adding a second VLAN to a NIC caused the IP to disappear from the NON_VM network on the NIC. The IP of the NON_VM Network is now preserved when you add a second VLAN to a NIC.

**BZ#846014**

Previously, it was impossible to hotplug a non-bootable VirtIO disk after installing an operating system on an IDE disk. All disk types failed in this scenario. A fix was made to the engine core.

It is now possible to hotplug a non-bootable VirtIO disk after installing an operating system on an IDE disk.

**BZ#846307**
Previously, an IO error presented when the following conditions were met:

* A bond had been created with two VLAN networks, one with MTU 5000 and the other with MTU 9000
* A virtual machine was created with the above-mentioned networks attached
* The networks were deactivated on the virtual machine
* SetupNetwork was opened, and the bond was broken

Previously, when these conditions had been met, an IO error presented and supervdsm restarted.

An update to VDSM now makes sure that supervdsm is not restarted with IO errors present.

**BZ#846312**

In a beta release of Red Hat Enterprise Virtualization 3.1, operations involving logical networks with custom MTUs failed.

Now, logical networks with custom MTUs behave the same way as those without custom MTUs.

**BZ#846323**

Previously, removing multiple domains with extended luns would occasionally result in a race which would cause one of the removals to fail. This has been corrected so that only one lvm operation is used at a time, preventing the race and allowing domains to be successfully removed.

**BZ#846376**

Previously, when the VDSM tried to use connectStoragePool it would call 'vgs' twice for each storage domain. This meant activating the host from maintenance mode took an excessively long time. This patch corrects the call, making activating the host much faster with a typical result within less than 30 seconds.

**BZ#846599**

Previously, there was a logging error in crabrpc. This was because _log was treated as a method instead of an object, and the log object, once created, had not been added to CrabRPCServer.

_log is now treated as a method instead of an object, and has been added to CrabRPCServer. The logging error no longer occurs.

**BZ#846609**
Previously, Red Hat Enterprise Virtualization was configured by default to use 2048-bit DH keys for encryption. The length of time required to generate these keys could cause Red Hat Enterprise Virtualization installations to timeout and fail. Now, Red Hat Enterprise Virtualization uses 1024-bit keys instead, and installations no longer fail due to key generation timeouts.

**BZ#847328**

Previously, the VDSM failed to correctly check metadata when validating a storage domain. This meant a storage domain could be validated with empty or incorrect metadata. The validation process has been corrected so that if there is an issue with the metadata the validation fails.

**BZ#847733**

Previously, adding a host which is already attached to a VLAN tagged network failed. The modifications made to the original configuration script for the ethernet device caused it to lose connectivity. This issue has been resolved, allowing the addition of a host that is already attached to a VLAN tagged network.

**BZ#847744**

Previously, the fenceNode API was missing the "options" argument. Consequently, options for the fenceNode verb were not passed to the underlying vdsm implementation. The options argument has been added to the fenceNode API, as a result the fenceNode verb works as expected.

**BZ#848041**

The upstream revisions of the remoteFileHandler implementation have been backported to the current version of VDSM.

**BZ#848101**

Previously, VDSM did not remove port mirroring on a virtual machine's source network after the virtual machine had been migrated. This blocked all traffic to the bridge network, as the mirroring destination did not exist after the migration succeeded. VDSM now implements unsetPortMirroring, which removes port mirroring on the source network when hot unplugging the mirroring target, or after the virtual machine is successfully migrated.
A previous change to VDSM caused the getVdsCaps call to only return the number of physical cores on a system. Now, VDSM allows configuration of the report_host_threads_as_cores option to specify what is returned by getVdsCaps. When the report_host_threads_as_cores option is left in its default "false" value, getVdsCaps reports the number of real host cores in cpuCores. When the value is changed to "true", getVdsCaps returns the total number of hyperthreads.

BZ#849542

Previously, the bootstrap script (vds-bootstrap) retrieved the engine time as a parameter, but did not set the clock until after installing packages. Since the package installation process took a few minutes, the clock was a few minutes behind. VDSM has been updated so that the clock is set when the engine time is retrieved, and now the clock is accurate.

BZ#849934

VDSM now provides the qgaEnable option, which allows the qemu guest agent to quiesce virtual machine disks when creating a live snapshot. Quiesce (which stops all IO-generating processes and flush write buffers) can only be used if the channel providing the guest agent is enabled, or when the guest agent is present on the virtual machine.

BZ#850708

Previously, the vds_installer script pulled python scripts into /tmp, which was not optimally secure (because /tmp is writable for all users but executable only as root). As a result, users could put scripts into /tmp and achieve privilege escalation. VDSM now uses mktemp to create directories to house scripts so that this illicit method of privilege escalation is no longer possible.

BZ#851146

Previously, a single expensive action involving findDomain in the Storage Pool Manager would lock the storage pool, preventing VDSM to sample the storage domain connections and switching the host to a status of 'Non-operational'.

Now, findDomain calls for different storage domains run in parallel to prevent the storage pool lock.

BZ#851518

Previously, it was not possible to add a storage domain with version 1 or 2 metadata to a pool where the master domain had version 3 metadata. VDSM was patched to allow storage domains with metadata versions 1 and 2 to be attached to pools where the master domain has version 3 metadata.
Previously, VDSM did not log every networking change, which made it much more difficult to determine the nature and cause of bugs. VDSM now logs more networking operations than it did before (ifup, ifdown, config file removal, persistent backups of config files, network service stops and starts, vlan removal, bridge removal, declaring network configurations 'safe'), which decreases the amount of time necessary to fix networking bugs.

**BZ#852753**

Previously, when adding an iSCSI storage repository with CHAP authentication, the user name and password were not recorded to the database. This meant that after rebooting, hypervisors were not able to connect to the storage domain again. This has been corrected so the passwords are appropriately stored and the secure connection can be made even after rebooting.

**BZ#852989**

Previously, a libvirt error stating "shareable leases are not supported" occurred when attempting to start a virtual machine with the latest version of VDSM. This was because libvirt was not automatically updated to the latest version. Now, there is a version ramp in place that requires libvirt 0.9.10-21.el6_3.4 to prevent this error from occurring.

**BZ#853011**

When /rhev/data-center/mnt contained multiple directories, creating a new storage pool resulted in the exception "No free file handles in pool." Since all domains used one global process pool with limited process slots, the exception occurred when the process limit is reached. The fix separates process pools for each domain instead of using a global pool, modifying the design behavior to allow for more available file handlers.

**BZ#853040**

Previously, when using the Red Hat Enterprise Virtualization Manager portal to create an NFS data storage domain, an entry would be created regardless of whether or not the right path was provided to the mount command. As the manager assumed there was always a correct target, this could potentially cause serious data loss. This issue has been corrected so that if an incorrect path is provided, the action fails and the failed directory is cleaned automatically by the VDSM.

**BZ#853703**
The DomainMonitorThread attribute produces an attribute error when a connection to the NFS ISO domain is blocked. The onDomainConnectivityStateChange event was erroneously being reported as an attribute of DomainMonitorThread which triggers the attribute error when onDomainConnectivityStateChange is being called. onDomainConnectivityStateChange is now properly called as an event and not an attribute.

BZ#853710

When an ISO domain was blocked and deactivateStorageDomain was sent, it failed to deactivate the storage domain and showed a "storage domain does not exist" error. Due to this, the domain never switched to inactive, and instead cycled between locked and active in the engine. This patch removes a now redundant cache that caused the error, allowing domains to switch to inactive successfully.

BZ#853910

During a domain upgrade from metadata version 1 to 3, block domains were not converted to the tag-based metadata. The convertDomainMetadataToTags function has been fixed to upgrade block domains to the tagged format when upgrading from any prior release to the current release.

BZ#854027

Previously, VDSM did not start the ksm and ksmtuned services when it started. This adversely impacted the Red Hat Enterprise Virtualization memory over-commitment features.

Now, VDSM automatically starts ksm and ksmtuned.

BZ#854151

Previously, when a host was put into maintenance mode, the back end would send disconnectStorageServer but the VDSM failed to actually disconnect. If there was a problem with the target, an error would remain even after the host was put back into up mode as the disconnection never occurred as it should have. Now, the disconnectStorageServer call works correctly, allowing issues to be repaired as necessary and the host to be re-activated without errors.

BZ#854204

Previously, vdsbootstrap failed to fetch the exact hostname you set when you registered the Red Hat Enterprise Virtualization Hypervisor. As a result, the administration portal displayed the hostname as "localhost.localdomain". A proper Python API call now fetches the correct hostname, causing the correct hostname to be displayed in the administration portal.
Previously, Red Hat Enterprise Virtualization did not adequately prioritize concurrent high I/O storage operations, like deleting and wiping multiple virtual machine disks. These operations resulted in large storage latency, causing the Manager to fence the SPM, and the operation to fail.

Now, concurrent SPM operations are prioritized so that longer, high I/O operations do not starve more important tasks of resources. High latency in low priority operations no longer causes the SPM to be fenced.

When attempting to configure a gpfs storage domain, VDSM failed to connect to the storageServer due to an explicit expectation of a ":" symbol in networked filesystems. The solution was to parse the filesystem type and validate the need for the colon when required in NFS domains.

VDSM previously required Sanlock 2.3-3.

Sanlock version 2.3-4 became available and VDSM's requirements have been updated to use it.

Previously, when you had more than one VLAN MTU networks attached to a NIC or bond and one network had a higher MTU setting than the other, removing the network with the higher MTU should have caused the MTU on the network or bond to change to reflect the MTU setting of the network with the next-highest MTU setting. This did not happen. VDSM has been updated so that the MTU is updated to reflect the network with the highest MTU setting remaining on the bond or network when the network with the previously-highest network is removed.

Previously, VDSM attempted to release the hostId lock on an unreachable storage domain, and wrote potentially confusing messages to the vdsm.log file.
Attempts to release hostId lock are no longer made for unreachable storage, and the potentially confusing error messages are not written to the vdsm.log file.

In a beta release of Red Hat Enterprise Virtualization, upgraded file-based storage domains had multiple lease files generated for templates that were used in multiple virtual machines. Now, one lease file is generated for each template no matter how many virtual machines use it.
Previously, Red Hat Enterprise Virtualization only supported NFS version 3 for NFS storage domains. Some Red Hat Enterprise Virtualization users created storage domains with this limitation in mind.

Red Hat Enterprise Virtualization 3.1 added support for NFS4 storage domains. To ensure ease of upgrades from 3.0 to 3.1, the default value for storage domain NFS version is 3. NFS version 4 and version auto-negotiation can be selected.

Upgrading the host from vdsm 4.9.113.3 to 4.9.6-32 by reinstalling the host caused installation to fail with a Transaction Check Error. This is because bootstrap ran on "update vdsm" instead of "update vdsm-*". This caused conflicts on vdsm-cli. The bootstrap-related issue has been fixed in vdsm, and "yum update 'vdsm*' now correctly updates vdsm on the host.

For consistency with the upstream format, the VDSM configuration for libvirt has been backported.

Previously, when attempting to upgrade the VDSM from 3.0 to 3.1, migrating virtual machines from 3.0 hosts failed with an AttributeError. This has been corrected so that virtual machines can be migrated from hosts running VDSM 3.0 to hosts running VDSM 3.1.

In versions of VDSM prior to 4.9-113.3, floppy and CD drives were treated as special drives. Starting with VDSM 3.9-113.3, floppy and CD drives were grouped with other drives. This difference prevented virtual machines from migrating between hosts with VDSM versions prior to and after 4.9-113.3. VDSM was patched to allow migrations between hosts with different versions of VDSM.

Previously, when VDSM tried to retrieve information about engine-defined VLAN, bonds, or NICs that were no longer in the system, the host became "non-operational" instead of "unassigned" (which is what it should have become when the network was required) or "up" (which is what it should have become when the network was not required). VDSM now detects missing interfaces and does not report information associated with missing interfaces to the engine.
Previously, performing an automated installation of a hypervisor using the "management_server" parameter without specifying a port number and without the "management_server_fingerprint" option succeeded, but the hypervisor could not be approved from the Manager administration portal. Now, port 443 is used by default if an alternate port is not provided, and management_server_fingerprint is optional. You can automatically install and approve a Hypervisor without specifying a port number or a management_server_fingerprint.

Previously, configuring a network on a specific interface with the boot protocol "DHCP" caused the underlying interface to be configured with the boot protocol "DHCP". This meant that when (for instance) you moved the DHCP-configured management network from one interface to another, the first interface would remain configured with DHCP. A patch to VDSM makes sure that "Boot proto=dchp" no longer appears in the ifcfg file when the DHCP-configured management network is moved from one interface to another. In those cases, the configured management network has no set boot protocol.

VDSM uses a self-signed certificate to authenticate requests for service. The certificate used to be generated at VDSM rpm installation time. Now, the certificate is generated when the VDSM service starts for the first time.

Previously, wiki documentation wrongly instructed readers to use the vm_payload tag instead of the payload tag, which made it impossible to set payloads via the API by using the documentation. File injection was also absent. This made it impossible to setting payloads through the REST API. Documentation has been updated to instruct readers to use the payload tag, and vdsm has been updated so that file injection is added to vm (this was included in VDSM 4.9.1-12). A vm_payload is now found in the database when the payload is set through the REST API.

Previously, it was impossible to customize the management bridge name in VDSM. Gluster uses a fork of the VDSM code base. In order to use the same code base upstream and downstream, the bridge name should be customized because it is different upstream from downstream. It is now possible to customize the management bridge name in VDSM.
Previously, the Red Hat Enterprise Virtualization log collector tool did not collect `/etc/vdsm-reg/*` which contains important information for debugging registration issues. The updated package now logs data from the `/etc/vdsm-reg/` directory.

VDSM has been updated to comply with the new live storage migration implementation in libvirt and qemu-kvm. The API has been revised to facilitate flow for the ovirt-engine.

Previously, issues in the VDSM caused some virtual machines to become non-responsive when attempting to upgrade pools from Red Hat Enterprise Virtualization Manager 3.0 to 3.1. This has now been fixed to ensure no virtual machines will become unresponsive when upgrading.

Previously, the `libvirt_password` was created inside the spec file without the newline character (echo -n). Now, there is a file that contains the password but uses the newline character. This scenario makes the rpm upgrade finish with an incorrect warning message showing that the password has changed. This patch removes the newline character from the `libvirt_password` file and prevents incorrect warning messages.

Previously, VDSM did not correctly configure SELinux to work correctly with sanlock on NFS shares, which interfered with the workings of the Storage Pool Manager.

Now, VDSM automatically sets the boolean required for sanlock to use NFS shares.

When a virtual machine migration was cancelled, the engine mistook the cancellation for a migration failure and re-migrated the virtual machine instead of cancelling the operation. VDSM then shut down the virtual machine as it assumed that the failure was not handled correctly. The fix prevents a possible race condition while a system is being shut down on the destination host. The Engine can call destroy on the destination host while waiting for _incomingMigrationFinished to complete and accidentally shut down the wrong host.

When a system is being shut down on the destination host, the Engine can call destroy on the destination host while waiting for _incomingMigrationFinished to complete and accidentally shut down the wrong host.
Previously, if the "port mirroring enable" action on a virtual machine failed, it remained configured in the VDSM. This patch corrects the error so that if enabling port mirroring fails it is properly reflected in the VDSM.

BZ#867922

Previously, changes to the internal API for VDSM 3.1 caused an error when attempting to remove a 3.0 host from Red Hat Enterprise Virtualization Manager 3.1 and re-attach it to a 3.0 Manager. This has been corrected so that hosts may be moved between 3.0 and 3.1 Managers without errors.

BZ#868272

When a raw formatted volume smaller than a multiple of the LVM physical extent size is requested, the logical volume (LV) created will be a multiple of the physical extent (PE) size. Previously, the guest system using the volume used the larger volume but the getVolumeSize API request reported back the initial requested value. The size value of the metadata has been adjusted to reflect the actual size allocated to the volume.

BZ#868681

Previously, due to a race condition, an exception error would sometimes occur in forceIScsiScan when attempting to put a host containing the host storage manager into maintenance mode and deactivating the attached storage domains. This caused the deactivation to fail and also caused problems when attempting to reactivate the domain. The race issue has been corrected to prevent exception errors when forceIScsiScan is used.

BZ#868721

Previously, lastCheck (delta seconds since last stats collection) was logged by VDSM as a time stamp rather than a value being reported to the Manager. Now, VDSM logs the actual value of lastCheck as reported to the Manager to improve debugging.

BZ#870024

As part of the upgrade from Red Hat Enterprise Virtualization 3.0 to 3.1, storage domain metadata is also upgraded. Previously, storage lease metadata files were having incorrect permissions on them, which prevented file-based storage domains from being recovered after an upgrade. This fix modifies the permissions on the storage lease metadata files during the upgrade procedure. The local domain can now be upgraded without issue, and will come online after the upgrade.

BZ#870079
The VDSM and vdsm-cli packages were changed in 3.1 in a way that creates a conflict with previous packages if VDSM and vdsm-cli are not upgraded at the same yum transaction. rhevm-3.0 tries to upgrade VDSM and vdsm-cli in different yum transactions and fails because of that conflict. Now, vdsm-cli is a dependency of vdsm and is pulled into the vdsm yum transaction, allowing yum to resolve the conflict.

**BZ#870509**

All "ovirtEngine" strings have been changed to "@ENGINENAME@" to reflect the code change embedded in RHEV-M.

**BZ#870734**

Previously, the bootstrap code did not start the libvirtd service before using the netinfo module. The current vdsm.netinfo fails if libvirtd is not running. This patch starts the libvirtd service during the import of the compatibility module so that vdsm.netinfo will not fail.

**BZ#870768**

Previously, if the connection between a host and the storage server was blocked, the storage domain was not able to reconnect. The connectStoragePool now rescans iSCSI connections to reactivate storage domains in case of interruption.

**BZ#871355**

Previously, blocking export NFS or ISO NFS domains caused zombie processes that would eventually overrun VDSM and crash the whole data center. This patch corrects the issue, allowing export domains to be blocked and defunct processes to be cleaned up automatically.

**BZ#871811**

Previously, attempts to suspend a virtual machine with local storage using the REST API failed, with an error stating the volume did not exist. The REST API was patched to make fileVolume a real classmethod, symmetrical with block domains. Virtual machines with disks on local storage domains can now be suspended using the REST API.

**BZ#872270**

A pool link goes missing under the /rhev/data-center after a live snapshot's storage domain failure. This is caused by a race condition between cleaning up the symbolic link to the pool and the recreation of the link at recovery when accessing the storage pool. This was fixed by moving the cleanStorageRepository out into the same thread to prevent the race condition. The pool link should appear correctly under /rhev/data-center whenever the storage becomes available.
BZ#872935

Previously, after a storage domain connectivity failure, storage mailbox threads could fail in an unmanaged state, consuming threads from the thread pool and eventually locking the system.

Now, these threads are forcibly reclaimed for reuse in the threadpool at a later time.

BZ#874481

Previously, if a virtual disk was migrating to a storage domain, and the storage domain ran out of available space, the virtual machine paused on an unknown storage error and could not be resumed. The virtual disk will now automatically resume once space has been made available on the storage domain.

BZ#876115

Previously, an error would occur when using "moveImage" from the Rest API when the image did not exist in the source domain and an internal parameter "force" was set. VDSM would try to delete the image even though it did not exist and the task failed.

VDSM now validates if the image exists and will output an error message if no source volumes are found.

BZ#876558

Previously it was possible for a host to send prepareVolume to a logical volume that had not finished being created, resulting in failure. An initial tag has been added to the lvcreate command so that other hosts are able to identify the volume as incomplete and ignore it.

BZ#878007

Previously, Windows 7 virtual machines would freeze while shutting down when the virtio-console device used the virtio-serial driver. Now, virtio-console has been prevented from interfering with the shutdown of Windows virtual machines.
Chapter 3. RHBA-2013:0003 — Red Hat Enterprise Virtualization Manager

The bugs contained in this chapter are addressed by advisory RHBA-2013:0003. Further information about this advisory is available at [https://rhn.redhat.com/errata/RHBA-2013-0003.html](https://rhn.redhat.com/errata/RHBA-2013-0003.html).

### 3.1. Administration Portal

**BZ#893020**

In preparation for the release of Firefox 17 ESR it has been added to the list of supported browsers.

**BZ#879724**

The creation of a new data center is supposed to automatically open the 'Guide Me' window, however this prompt was not occurring. This has been corrected and now the 'Guide Me' window is opened automatically upon creation of a new data center.

**BZ#879725**

Previously, when a new ISO was available, the displayed message was ambiguous. Now, the message is more clear: "A new RHEV-Hypervisor version is available, an upgrade option will appear once the host is moved to maintenance mode."

**BZ#879726**

Previously, when new ISO upgrades were available, an alert would appear but then disappear after refreshing the user interface. This may have caused confusion about whether or not the upgrade was available. Now, the alert appears and remains in the event log as it should.

### 3.2. Backend

**BZ#893012**

A number of scenarios were identified where SQL queries run by the rhevm-upgrade script would fail as a result of inconsistencies between existing data and the updated database schema. The rhevm-upgrade script has been updated to identify these scenarios and take action to maintain the integrity of the database while also successfully completing the upgrade.

**BZ#879719**
Previously, if something went wrong in the FenceQuietTimeBetweenOperationsInSec window, the host would be unresponsive unless manually restarted. Now, FenceVdsBaseCommand no longer checks QuietTimeBetweenPmOperations if the command was invoked by the system and the host goes up as intended.

**BZ#879721**

Previously, LDAP query errors were poorly logged, which made troubleshooting difficult.

LDAP query errors are now thoroughly logged, making troubleshooting easier.

**BZ#879722**

Previously, when a virtual machine template was imported to a data center, the PCI address, as it exists in the template OVF, was not imported. Now, a signature has been added to addManageDevice with an additional address parameter so that the virtual machine addresses are imported with the template.

**BZ#880745**

A new tool, engine-async-tasks-cli, is available. This standalone utility is for erasing asynchronous tasks on upgrade from Red Hat Enterprise Virtualization 3.0 to 3.1.

**BZ#882653**

This patch removes the configure_disk_storage action group from the DiskOperator and UserVmManager roles, as these roles should not allow moving or copying a disk to a different storage domain.

**BZ#882972**

A new engine feature has been added called "prepare/maintenance mode" which allows better control of tasks while conducting maintenance. It allows the distinction between engine-generated tasks and user-generated tasks; this means that important engine tasks will not be prevented while user tasks can be stopped during maintenance.

**BZ#883444**

Previously, the XmlRpcStruct could not handle the null Path value in spec-params, which caused errors when running multiple virtual machines with the payload CD-ROM. Now, this behavior has been corrected so that the Path value does not upset the XmlRpcStruct.

**BZ#884640**
Previously, the public key `rhevm.ssh.txt` was not renamed to `engine.ssh.key.txt` during the process of upgrading the hypervisor. `rhevm.ssh.txt` has now been added to the list of keys to be renamed to `engine.ssh.key.txt`.

**BZ#891057**

As a result of bug # 835504 it was found that the disk images of virtual machines imported into Red Hat Enterprise Virtualization 3.0 were locked. This issue was fixed for newly imported images in an earlier update (3.0.7) but images imported prior to the change remained locked.

While this issue had limited impact in Red Hat Enterprise Virtualization 3.0 it was found that when the Manager was upgraded to 3.1 the relevant virtual machines would refuse to start. The `rhevm-upgrade` script has been updated to detect locked disk images and unlock them as part of the upgrade process, ensuring that affected virtual machines can be started post-upgrade.

**BZ#893011**

Previously the `rhevm-upgrade` script did not update the UUID values used to uniquely identify hosts to the new format used in Red Hat Enterprise Virtualization 3.1. As a result users had to manually regenerate the UUID values of the hosts and re-add them to the Manager. The `rhevm-upgrade` script has been fixed and now handles the UUID conversion automatically.

### 3.3. Configuration Tools

**BZ#879723**

Previously, when running `rhevm-manage-domains` for domains missing SRV records from DNS, a password would be prompted from the user rather than the appropriate error message of 'DNS not found'. Now, a DNS SRV query is performed to get LDAP servers (and KDCs) for domain. If successful, the user will be prompted to enter the password. If unsuccessful, the appropriate error message is printed.

**BZ#880020**

When an empty file was provided as the `-passwordFile` argument to the `rhevm-manage-domains` script then a `NullPointerException (NPE)` was thrown and a stack trace displayed. The `rhevm-manage-domains` script has been updated to detect whether or not the `-passwordFile` contains any data and handle the situation where it does not contain any more gracefully.

**BZ#882971**
Previously, using certain regex strings as custom properties were causing the engine to misbehave, for example, unable to access hosts, connect to storage, or control virtual machines. A new tool, CustomPropertiesValueHelper, has been created to be used with UserDefinedVmProperties. Invalid regex strings now return a descriptive message explaining the problem and the engine is not affected.

**BZ#883361**

A regression was introduced as a result of the fix for bug # 871591 that attempted to read the domain from an improper place, resulting in DNS SRV queries to an empty domain. This has now been fixed by adding the domain.

### 3.4. Installation

**BZ#757642**

In Red Hat Enterprise Virtualization 3.0 the password for the power management device attached to a host was stored as plain text in the pm_password field of the vds_static table.

In Red Hat Enterprise Virtualization 3.1 this field is encrypted, but previously the rhevm-upgrade script did not encrypt the value when upgrading an existing 3.0 installation. The rhevm-upgrade script has been updated and now encrypts the values stored in the pm_password field when upgrading.

**BZ#884639**

When upgrading from Red Hat Enterprise Virtualization Manager 3.0 to 3.1 if the upgrade process fails then instructions to roll back the changes are displayed to the user.

Previously these instructions omitted the steps required to roll back the history database used by the reporting engine. The rhevm-upgrade script has been upgraded and now provides steps for rolling back the history database in the event that the upgrade process fails.

**BZ#884642**

Previously in the event of a failure the rhevm-upgrade script did not always display the steps required to roll back the changes it had made. The script has been updated and now always displays the rollback instructions in the event of a failure.

**BZ#888222**
As part of the upgrade from Red Hat Enterprise Virtualization 3.0 to 3.1, the rhevm-upgrade script removes and installs a large number of packages. Output from this process both to standard output and the /var/log/yum.log log file is expected to pause for a significant amount of time while yum prepares for package installation.

A note has been added to the output of the rhevm-upgrade script to advise users of this.

BZ#888223

In some circumstances using rhevm-upgrade to upgrade from Red Hat Enterprise Virtualization Manager 3.0 to 3.1 resulted in the /etc/yum/pluginconf.d/versionlock.list file being cleared of its contents. The rhevm-upgrade script has been updated to ensure that it always maintains the contents of the versionlock.list file.

BZ#888938

Previously the rhevm-upgrade script would set the URL of the Manager to localhost:443 in the /etc/ovirt-engine/isouploader.conf file. As a result the ISO uploader would fail on installations that were upgraded from Red Hat Enterprise Virtualization 3.0 where the default HTTPS port for the Manager is 8443. The rhevm-upgrade script has been updated to maintain the port configuration from 3.0.

BZ#891338
Previously upgrading from Red Hat Enterprise Virtualization Manager 3.0 to 3.1 was not formally supported. This update fixes a number of known issues with the upgrade process. As a result upgrading from Red Hat Enterprise Virtualization Manager 3.0 to 3.1 is now supported for the majority of installations.

Known Issues:

* Upgrades of Red Hat Enterprise Virtualization 3.0 environments that contain V1 format block (iSCSI or FCP) storage domains that (1) are larger than 250 GB in size and (2) were created in Red Hat Enterprise Virtualization 2.2, are not supported. Changing the compatibility mode of a data center that contains such storage domains to 3.1 will result in a failure. A future update will correct this issue. Please note that V1 block storage domains created using the REST API in Red Hat Enterprise Virtualization 3.0 are unaffected. (BZ#893184)

For more information on upgrading to Red Hat Enterprise Virtualization Manager 3.1 consult the Installation Guide:


Additional tips and considerations to take into account are also available in the Red Hat Knowledge Base:

https://access.redhat.com/knowledge/articles/269333

3.5. Notification Service

BZ#884242

Previously, when attempting to set email notifications for specific events, the notification would fail when the $MAIL_FROM field was not defined. This has been fixed so that email notifications can be sent correctly.

BZ#884244

Previously, an issue with notification service resource closing meant notification emails for upgrades would sometimes fail. This has been fixed so that emails are sent as they should be.

BZ#888217

Previously upgrading to Red Hat Enterprise Virtualization 3.1 overwrote user settings in the /etc/rhevm/notifier/notifier.conf configuration file when moving it to the /etc/ovirt-engine/ folder. Existing configuration values were lost. The rhevm-upgrade script has been updated to maintain existing notification configuration values when upgrading.
3.6. REST API

Previously, if parameters were incomplete when creating a user, the backend would incorrectly populate missing parameters. Now, user creation will fail if parameters are incomplete.

BZ#877133

Previously, a computation error on the uicommomweb code meant that the REST API and the default Administration Portal UI for Red Hat Enterprise Virtualization 3.0 reported inconsistent RAM values for a host. The uicommomweb code has been fixed to more accurately report the used memory percentage. The REST API and the default Administration Portal UI now report consistent RAM values for hosts.

BZ#881049

Previously, when specifying a virtual machine's placement policy in the REST API, the host ID had to be used; using the host's name would produce an error. This has been changed so that both the ID and the name can be used to identify the host.

3.7. User Portal

BZ#884226

Previously upgrading to Red Hat Enterprise Virtualization The User Portal allows users to launch RDP clients to connect to Windows guests. Previously upgrading to Red Hat Enterprise Virtualization 3.1 stopped this functionality from working. The User Portal has been updated to restore this functionality.
Chapter 4. RHSA-2013-0211 — Red Hat Enterprise Virtualization Manager

The bugs contained in this chapter are addressed by advisory RHSA-2013-0211. Further information about this advisory is available at [https://rhn.redhat.com/errata/RHSA-2013-0211.html](https://rhn.redhat.com/errata/RHSA-2013-0211.html).

4.1. Administration Portal

BZ#886654

Previously, under the "Disks" tab, in the Creation Date column, the Japanese character for "month" (月) displayed. This character has been removed from the Creation Date column under the "Disks" tab, and the text displays as expected.

BZ#887856

Previously, in the Japanese version of the administration portal, the button for "Clone" under the Virtual Machines tab was spread over two lines. This caused a layout problem. The word for "Clone" in Japanese was altered so that it was not spread over two lines in the user interface, and the layout now displays as intended.

BZ#883893

In the Japanese version of the administration portal, the Host Tab did not present the entire Japanese translation of the phrase "no network assigned". The truncated Japanese translation displayed because the text field set aside for it was too short to accommodate the Japanese text. The field has been lengthened, and the Japanese translation of the message "no networks" now displays correctly.

BZ#883915

Previously, the portal Login button was not localized. This has been corrected.

BZ#883910

Previously, under the Disk tab, the way that the information in the "Remove Disks" window was structured made it difficult to translate into grammatically correct Japanese. The structure of the information in the "Remove Disks" window under the Disk tab has been changed to make it easier to translate into Japanese.
Previously, in the Spanish translation of the administration portal, the heading "Advanced View" ("Vista Avanzada") under the Event Tab was truncated. This was because the field containing this string was too short for the entire translated string. The field containing this translated string has been extended, and the Spanish translation of "Advanced View" now displays fully.

**BZ#883933**

Previously, in the Simplified Chinese translation of the administration portal, under the Clusters tab, when you clicked on the "Logical Networks" tab in the details pane, translated strings appeared for an empty column. The string has been removed, and the empty column now displays correctly.

**BZ#883896**

Previously, in the Japanese translation of the administration portal, there was a colon (":") between the line reading "Used: xxxxGB" and the line displaying the NFS Export Path. This was because of an internal translation string reading "empty=\u3000", which, when rendered, displayed as a colon. This internal translation string has been removed, and the colon no longer appears.

**BZ#885737**

Previously, several strings in the Japanese translation of the administration portal displayed as "oVirt" instead of "RHEV". The Japanese translation now displays "RHEV" instead of "oVirt" in all expected locations.

**BZ#889792**

Previously, "Configure Local Disk" did not work properly in the Japanese translation of the administration portal, making it impossible to configure the hypervisor's local disk. "Configure Local Disk" has been fixed in the Japanese translation and it is now possible to configure the hypervisor's local disk.

**BZ#881121**

Previously, the "Virtual Size" column that displays when you click "Add Virtual Disk" was not long enough to display the translation of the heading "Virtual Size" in Spanish. The size of this column has been increased to accommodate the length of the string in all locales, and the translation of "Virtual Size" in Spanish now displays in its full form.

**BZ#888785**
Previously, in localized versions of Red Hat Enterprise Virtualization, there were several places where "oVirt" had not been rebranded as "RHEV". "oVirt" has now been replaced in the localized versions of Red Hat Enterprise Virtualization with "RHEV".

### 4.2. Backend

**BZ#888317**

Previously, upgrading from Red Hat Enterprise Virtualization 3.0 to Red Hat Enterprise Virtualization 3.1 caused users to be unable to perform actions on virtual machines they had created when the environment was still 3.0. This was because diskCreator permissions were not carried over from 3.0 to 3.1. Users are now granted the UserVmManager role over machines they created in 3.0, which allows them to perform operations on the virtual machine after the upgrade.

**BZ#893597**

Previously, when exporting virtual machines from Red Hat Enterprise Virtualization 3.0 and importing them into Red Hat Enterprise Virtualization 3.1, the virtual machines would not start because of an error requiring the boot order to begin with "1" and requiring the boot order to be contiguous. Boot orders no longer have to be contiguous under these circumstances, and it is possible to start virtual machines that have been exported from 3.0 and imported into 3.1.

**BZ#880978**

A failure to encrypt the power management password caused `engine.log` to be flooded with errors reading "Failed to decrypt Data" when an upgrade from 3.0 to 3.1 was performed. This has been remedied, and the errors no longer appear.

**BZ#887871**

Previously, in the Japanese version of administration portal, entering Japanese characters into the description field when creating or editing virtual machines and templates produced an unhelpful error message. A meaningful error message now displays under the conditions described above.

**BZ#888309**

An unmasked regression in DiskImageByDiskAliasComparator caused V2V to fail when importing ESXi5.1 hosts with storage added to them. Virtual machines running on these imported hosts could not start. Disk aliases have been added to the ImportVmCommand when the copyCollapse parameter is set to false, so it is now possible to use v2v to import ESXi5.1 hosts.
Previously, when you used more than one domain controller, added your setup to the domain, shut down one of the domain controllers, and tried to add users, Red Hat Enterprise Virtualization would behave as though nothing was happening when you queried users. If you closed the window and reopened it, the domain disappeared from the list of domains and a 501 timeout error appeared after several minutes. The root cause of this bug is exceeding multiple concurrent ajax requests.

The "GO" button has been disabled within the search-users section after you click it in the add-user/add-permission dialog. This prevents multiple concurrent long requests to the server which resulted in an unresponsive UI.

Previously, when a storage domain was partially inaccessible, the event log reported that a domain was problematic but did not report which LUNs were inaccessible. Now, when this condition presents, the event log records an error that includes information that you can use to determine which of the LUNs is inaccessible.

Previously, when StopVmCommandBase was called the rollbackQuota called the database too many times. The rollbackQuota method was changed so that the virtual machine disks would be fetched from database only if the virtual machine is stateless and the quota is enabled.

This version of Red Hat Enterprise Virtualization introduces the configuration value "SupportForceExtendVG". The "force" flag is passed to "extendStorageDomain" when "SupportForceExtendVG" has been set to "true". New extendStorageDomain method signatures have also been added to "IrsServer" files. "StorageListModel" passes "force" flag to ExtendSANStorageDomainParameters.

Previously, when a pCPU value had more than one decimal digit (meaning that it was 10 or higher), CPU pinning did not work on it. CPU pinning is now possible for physical or virtual CPUs designated by a pCPU value that contains more than one digit.

Previously hotplugging and unplugging of Direct LUNs failed after an upgrade from 3.0 to 3.1. Hotplugging (and unplugging) of direct LUNs now works after an upgrade.
4.3. Installation

Previously, rhevm-upgrade did not check if there was enough disk space to perform an upgrade before starting the upgrade. This led to a situation in which it was not possible to make sure that the RPMs installed before the upgrade were still installed. Now, rhevm-upgrade makes sure that there is enough disk space to perform an upgrade before starting the upgrade.

4.4. REST API

Previously, CREATE operations did not record "address", "target", "port", and "id" as LUN element mandatory parameters. RSDL metadata was not added to rsdl_metadata_v-3.x.yaml. CREATE operations now record "address", "target", "port", and "ID" as LUN element mandatory parameters. This RSDL metadata is now added to rsdl_metadata_v-3.x.yaml.

4.5. User Portal

Previously, in the User Portal, a user with UserRole assigned to a pool could not see the virtual machines in the pool. Users with UserRoles assigned to pools can now see the virtual machines in those pools.
Chapter 5. RHBA-2013:0228 — VDSM

The bugs contained in this chapter are addressed by advisory RHBA-2013:0228. Further information about this advisory is available at [https://rhn.redhat.com/errata/RHBA-2013-0228.html](https://rhn.redhat.com/errata/RHBA-2013-0228.html).

5.1. VDSM

**BZ#884722**

SuperVdsm (svdsm) was not functional after processing an exception which caused a network delete operation. Consequently, storage and network actions which required svdsm permissions failed. With this update, when svdsm recognizes that the vdsm pid does not exist, it sends a SIGKILL signal and terminates itself. The exception which causes the svdsm to malfunction does not occur.

**BZ#885777**

After a virtual machine's storage disk was live migrated, a libvirt error caused by snapshot metadata prevented the virtual machine from being migrated. This patch introduces a libvirt flag which disables the creation of snapshot metadata. Virtual machine migration now succeeds after storage live migration.

**BZ#891074**

Previously remote storage domains were identified in the same way as local storage domains due to incorrect internal names being assigned by VDSM. As a result creating a new POSIX file system storage domain backed by storage that was local to the host(s) resulted in the error "Cannot find master storage domain" being returned. VDSM has been updated to correct this issue. Creation of POSIX file systems backed by storage that is local to the host(s) now works correctly.

**BZ#891075**

Previously, SELinux booleans had to be manually enabled on hosts which run virtual machines using Red Hat Storage as a storage domain. Without the booleans enabled, starting and migrating virtual machines could be problematic. This update adds the SELinux boolean configuration from a shell scriptlet in the rpm package to the vdsm-tool command. Now, vdsm-tool automatically enables the virt_use_fusefs, virt_use_nfs, virt_use_samba, virt_use_sanlock, sanlock_use_fusefs, sanlock_use_nfs, and sanlock_use_samba booleans on hosts.

**BZ#891341**
Previously, before unmapping LUNs in the Compellent array from a storage domain, all paths to the LUN had to be manually deleted. Failure to do so caused storage domains to lose connectivity, and required a reboot of all hypervisors to re-establish the connection. This update introduces a parameter to override Compellent device settings in multipath.conf. When a storage domain is removed, the paths to the LUN are automatically failed without putting the host to a non-operational state.

BZ#891343

Previously, removing volumes from version 3 storage domains did not delete the corresponding lease files. Consequently, after the snapshot of a virtual machine was deleted, the virtual machine could not be removed. This update renames lease files on v3 storage domains when virtual machine data and metadata files are deleted, so a virtual machine can be successfully deleted after its snapshots are deleted.

BZ#892667

A VDSM upgrade from version 4.9-113.4 (z-stream) to 4.9.6-44.1 (GA) failed because VDSM did not have a dependency on the updated selinux-policy package which contained the sanlock_use_nfs and sanlock_use_fusefs booleans. This update adds the missing booleans, and VDSM upgrade succeeds.

BZ#893076

Assigning an external LUN to a virtual machine added a udev rule to the hypervisor which changed the owner and group of the LUN to vdsm and qemu respectively. This udev rule file was generated but not sync-loaded in the hypervisor's memory, so a virtual machine with a direct LUN could not start. This update reloads udev rules before triggering new private udev functions in vdsm, and checks that the udev mapping is valid. Virtual machines with direct LUN disk can now be successfully started.

BZ#894034

When upgrading a storage domain to version 3, VDSM reallocates metadata slots that are higher than 1947 in order to use the same offsets for volume leases. Metadata slot offsets cannot be reallocated for v1 domains. Consequently, upgrading the data center to 3.1 compatibility mode fails when a storage domain is upgraded from v1 to v3. VDSM now forces the storage domain to upgrade to v2 before v3.
Chapter 6. RHBA-2013:0555 — VDSM

The bugs contained in this chapter are addressed by advisory RHBA-2013:0555. Further information about this advisory is available at https://rhn.redhat.com/errata/RHBA-2013-0555.html.

BZ#865673

Previously, the queue setting caused the management services on the Red Hat Enterprise Virtualization Hypervisor hosts to hang when a LUN is removed. A reboot was required to remedy this situation.

This meant that when you unmapped LUNs in compellant arrays, devices would remain on the host, and that caused I/O to hang. More specifically, when you deleted storage domains and wanted to unzone the related fibre-channel LUNs, you had to log into each hypervisor and delete all the paths to the LUN before unzoning the LUN. Failure to log in to each hypervisor and delete all the paths to the LUN before unzoning it caused Red Hat Enterprise Virtualization Manager to report that the storage domains had lost connectivity, and that put all the virtual machines in the data center in a non-functional state. Rebooting all hypervisors in the data center remedied the problem, a solution with high overhead.

A change to multipath.conf was introduced which overrides compellent device defaults, which now gives more control over host administration to Red Hat Enterprise Virtualization Manager.

Devices no longer remain on the host when you unmap LUNs, and reboots are no longer required to get the management services into a working state after unmapping LUNs.

BZ#879148

Previously, the vdsm package was blocking the libsemanage-python package from being included which resulted in an error when you tried to install the hypervisor on the manager.

Red Hat Enterprise Virtualization Hypervisor installation to the Red Hat Enterprise Virtualization Manager failed when vdsm was involved. During boot-up, the vdsm-tool reported the error "Import Error: No module named semanage."

A fix unblocks libsemanage-python package and the semanage module is now imported correctly with no error at boot time. This permits normal installation of Red Hat Enterprise Virtualization Hypervisor on Red Hat Enterprise Virtualization Manager.

BZ#913177
Previously, desktops placed the template volume within the same image group as the active volume. Consequently, the getAllImages() and getAllVolumes() calls returned volumes belonging to deleted images. Effectively, it was not possible to delete virtual machines that were created from a certain template.

A patch has been introduced that fixes the storage domains offline and prevents storage domain corruption. Virtual machines created from a certain template can now be deleted, and all vestiges of them in the storage domain are eliminated.

**BZ#907480**

Previously, the incorrect KVM version appeared in the Red Hat Enterprise Virtualization Manager user interface after Red Hat Enterprise Hypervisor was installed on Red Hat Enterprise Virtualization Manager.

The correct KVM version now appears in the Red Hat Enterprise Virtualization Manager.

**BZ#905924**

Previously, when a logical volume's metadata was blank and it was removed from the engine, attempts to upgrade the associated storage domain from version 2 to version 3 failed. This was due to an uncaught MetaDataKeyNotFoundError exception.

A workaround has been introduced whereby logical volumes are renamed using "lvrename" and LV tags are removed from logical volumes by means of "lvchange --deltag".

Upgrading storage domains from version 2 to version 3 now works correctly even in cases where previously the MetaDataKeyNotFoundError would previously have been triggered.

**BZ#905547**

Previously, if vdsm-reg-setup failed to contact the engine, it would continue generating messages that flooded the log and consumed all available space on /var/log.

A fix has been implemented that copies the log file and truncates it when it is opened for appending. This prevents the log from being flooded. vdsm-reg-setup no longer accidentally consumes all free space on /var/log.

**BZ#905192**
Previously, SELinux prevented /usr/sbin/sanlock from search access on NFS data storage domains, because of the SELinux context set on the files in those domains. This stopped NFS storage domains being activated, because the SPM role could not be assigned to a host.

Now, VDSM correctly sets the SELinux context labels on files in data storage domains, allowing Sanlock to function correctly.

BZ#891300

Previously, udev was not setting the correct user/group owner on the multipath device that corresponds to the direct-lun disk in 3.1. VDSM created a temporary, one-time use udev rule, then triggered udev to set the permissions on the device for us. This works when a RHEL host was used as the hypervisor, but it did not work when the hypervisor was built from RHEV-H.

This was due to a race between load dev and trigger rules. The rule file was written but not sync-loaded in memory.

This caused virtual machines that have this direct-lun disk attached to them to fail to start with a "permission denied" error.

A patch was created that calls udevadm --reload-rules in supervdsmServer.udevTrigger() before the udev trigger is called. Then udev settle is called, which waits for all udev requests to return.

Virtual machines now start when they have a link to a direct LUN.

BZ#891345

Previously, removing volumes from version 3 storage domains did not delete the corresponding lease files. Consequently, after the snapshot of a virtual machine was deleted, the virtual machine could not be removed. An update renames lease files on v3 storage domains when virtual machine data and metadata files are deleted, so a virtual machine can be successfully deleted after its snapshots are deleted.

BZ#896518

The domain cache is now cleared when connecting to storage pools, which picks up changes that have been introduced by additional hosts. An sdCache.refresh call has been reinstated in connectStoragePool to effect this change, and invalidateStorage has been added to StoragePool.refresh in order to force an iscsi rescan.

BZ#896511
Previously, live migration caused virtual machines to pause during the volume refresh.

VDSM now has more time to accomplish the operations associated with volume extension that were necessary during live migration, and virtual machines no longer move to a paused state during the volume refresh.

BZ#892670

Previously, two booleans, sanlock_use_nfs, and sanlock_use_fusefs, were missing from sanlock-policy.

The absence of these two booleans from sanlock-policy caused upgrading VDSM from 4.9-113.4 (z-stream) to 4.9.6.44-1 (GA) to fail.

The booleans sanlock_use_nfs and sanlock_use_fusefs have been added to sanlock-policy, and upgrades from vdsm 4.9.113.4 to 4.9.6.44-1 now succeed.

BZ#896509

Previously, upgrading from vdsm-4.9-113.4.el6_3 to vdsm-4.9.6-44.0.el6_3 caused vdsm to stop responding.

The threads HSM_MailMonitor and storageRefresh were turned into daemons, and upgrade from upgrading vdsm-4.9-113.4.el6_3 to vdsm-4.9.6-44.0.el6_3 no longer causes vdsm to stop responding.

BZ#896385

Red Hat Enterprise Virtualization Hypervisor requires a url that was used during the process of installing the hypervisor on the manager. This url allows the manager to detect the hypervisor. This url changed in the 3.2 development cycle, which caused the process of installing the hypervisor on the manager to fail. Unfortunately, in such cases, the manager reported that the hypervisor had been successfully registered into the rhevm network, but they hypervisor did not appear in the WebAdmin portal.

A patch corrects the url required for the manager to detect the hypervisor during the installation process, and hypervisors now install on managers without problems related to incorrect urls.

BZ#896506
Previously, blocking the connection between the host and the storage server (single host, single storage domain of iscsi type), waiting for the data center to become problematic and the storage domain to be inactive, and unblocking the connection resulted in a situation in which the storage domain was never able to reconnect and the data center never returned to active status.

A fix was added: connectStoragePool now rescans the iscsi connections and reactivates them in the case that they were previously interrupted.

Disconnected storage domains now reconnect to their data centers and the data centers now return to active status after the reconnections.

**BZ#888407**

Previously, the --force option was not turned on in the vgextend command if the physical volume was in use.

This meant that it was impossible to extend a storage domain if its associated physical volume was in use.

The --force option has now been turned on in the vgextend command, even when the physical volume is in use.

It is now possible to extend a storage domain when its associated physical volume is in use.

**BZ#896507**

Previously, live snapshotting failed because of a race condition that existed when you tried to move virtual machine disks between storage domains. This error occurred when a host interrupted the block volume creation process between the lvcreate step and the lvchange step.

A patch has been introduced which adds an init tag in lvcreate so that other hosts can identify logical volumes engaged in the creation process as "partial". When identified as "partial", hosts ignore these logical volumes. This eliminates the race condition that caused live snapshotting to fail.
During the upgrade of a domain from version 1 to version 3, vdsm reallocated the metadata slots that are higher than 1947 (given a lease's LV of 2Gb) in order to use the same offsets for the volume leases. This had no effect when the domain was version 1 since the metadata slots offsets were fixed (the first physical extent of the LV) and they couldn't be reallocated. In such cases, the upgrade failed with this message "NoSpaceLeftOnDomain: No space left on domain <id>". In such cases, the domain needed to be upgraded to version 2 before it could be upgraded to version 3.

Red Hat Enterprise Virtualization now automatically upgrades storage domains to version 2 if necessary before upgrading them to version 3. This ensures that there is no interruption of access to the storage domains, and upgrades proceed without interruption even when an upgrade from storage domain version 1 to storage domain version 3 is necessary.

BZ#896516

Upgrading storage domains to V3 would sometimes fail with the error "No space left on device" as a result of running out of metadata slots. VDSM has been updated to reallocate existing metadata slots, where available, to avoid this error.

BZ#889423

Previously, "NETMASK" was defined in the hypervisor network configuration file by the string "PREFIX".

Install scripts that were used to install the necessary Red Hat Enterprise Virtualization packages and to configure the hypervisor network did not understand the PREFIX line, and the installation failed.

A fix was introduced that identifies the PREFIX line as meaning NETMASK=255.255.255.0.

The installation no longer fails when trying to configure the hypervisor network.

BZ#891081

Previously, SELinux booleans were disabled on the hypervisors that ran virtual machines that made use of Red Hat Storage as the Storage Domain.

As a result, virtual machines did not start and did not properly migrate.

The appropriate SELinux booleans are now enabled as part of each hypervisor's boot-strapping process when the hypervisor is added to any data center of the type "POSIX-compliant FS".

Virtual machines now start properly and migrate properly without the SELinux conflicts that occurred due to booleans having the wrong settings.

BZ#892358
Red Hat Enterprise Virtualization 3.0 compatibility was added to VDSM 4.10 series.

BZ#910389

Previously, exporting a template-based virtual machine to an export domain that did not contain the template itself resulted in failure. This was because a fake volume was not created in the domain as it should have been. Now, a fake volume is correctly created, allowing the export of a template-based virtual machine regardless of whether the template is present on the export domain.

BZ#888315

Previously, the tap device on the bridge was counted as a part of the bond because of incorrect behavior in getNicsVlanAndBondingForNetwork.

This meant that it was not possible to break a virtual machine's bond to an attached network while the virtual machine was running, which meant that it was not possible to attach a custom MTU network while the virtual machine was running.

getNicsVlanAndBondingForNetwork has been altered so that it no longer counts the tap device on the bridge as part of the bond.

It is now possible to break a virtual machine's bond to an attached network while the virtual machine is running, and that makes it possible to attach a custom MTU network while the virtual machine is running.

BZ#888452

In a previous build of the Red Hat Enterprise Virtualization Hypervisor (rhev-hypervisor6-6.4-20121212.1.auto1271.el6.iso), the management was named "ovirtmgmt" instead of "rhevm". This prevented any nodes that had been installed using that build from joining any clusters.

The host management network is always named "rhevm", as this network is required by all clusters.

BZ#907252

A regression was introduced that prevented the use of special characters in LUN names. The regression has been corrected, and friendly LUN names are supported by multipath again.

BZ#910490

Previously, if storage networking were interrupted, host connections to the super VDSM process would fail. This was due to a race condition that saw VDSM kill itself, respawn, unlink its socket, and try to connect to the socket it had just removed. Now the socket is left in place, and the new VDSM process can connect to the super VDSM process after respawn.
**BZ#907253**

Previously, when an ISO domain lost SPM connectivity, connection to the ISO domain would fail to restore even though the mount was eligible. A patch to VDSM ensures that ISO domains are autorecovered after their connectivity is restored.

**BZ#896036**

Previously, VDSM created a serial console device automatically for use with virsh console. The console device interfered with the rhev-agent, and prevented Windows 7 guests from shutting down properly. VDSM no longer automatically creates a virtio-console device, and Windows 7 guests shut down properly.
Chapter 7. RHBA-2013:0556 — oVirt Node

The bugs contained in this chapter are addressed by advisory RHBA-2013:0556. Further information about this advisory is available at https://rhn.redhat.com/errata/RHBA-2013-0556.html.

ovirt-node

BZ#829248

Previously, when the password and password confirmation entries did not match, the password was still set. This fix enforces the match requirement to set the password and will produce an "Invalid:Password does not match" error if the passwords do not match.

BZ#847515

Previously, the sanlock service would not run because not all required kernel modules were loaded. Creating a storage pool failed as a result. This has been corrected so now creating storage pools does not fail.

BZ#773495

Previously the hypervisor did not guarantee the order in which Network Interface Cards (NICs) appeared, potentially resulting in a loss of network connectivity. This was the case even where the NIC had been configured for use by the hypervisor. The hypervisor has been updated and now ensures that NICs are ordered consistently once configured.

BZ#847103

On completion of hypervisor upgrades the hypervisor was rebooted. Previously this reboot was performed from within the shell session responsible for performing the upgrade. This resulted in the status of the host being listed in the Manager as "Install Failed" - even when the upgrade was successful. The rhev-hypervisor6 package has been updated. On upgrades the shell session is now allowed to finish gracefully while the reboot is initiated in the background.

BZ#846326

When connected to libvirtd running on an ovirt-node, modified libvirt network definitions were applied correctly to a live host but did not persist after a reboot. The network definitions are now stored in /etc/libvirt/qemu/networks and persists at each reboot of the host.

BZ#857846

When interfaces on the hypervisor were configured to use a static IP address the status page listed the relevant connection as none. With this update, connections configured to use a static IP address are now correctly listed on the status page as static.
In certain Red Hat Enterprise Virtualization Hypervisor upgrade conditions, the CIM user is not created correctly, causing errors when CIM is enabled and a password is added. This fix adds validation to the `set_password` function to ensure that the user is setup and correctly configured prior to setting the password.

Timing changes in the kernel exposed an issue with HWADDR errors in the configuration file. Name clashes with VLAN network interfaces containing the hardware address of its parent network interface occurred, which caused udev to rename the interfaces, so the network interfaces could not come up. This fix removes setting the HWADDR entry in the VLAN network interface config files to prevent udev from renaming the interfaces. All network interfaces should come up correctly.

Fuse kernel modules were blacklisted in the build system, so manually mounting a fuse client on a Red Hat Enterprise Virtualization Hypervisor gluster-virt ISO resulted in a fatal error "No such file or directory". This fix keeps the fuse kernel modules, allowing the system to recognize the file when it is mounted.

When networks were removed from host network interfaces via the Setup Network dialog on a Red Hat Enterprise Virtualization Hypervisor 3.1 host, Red Hat Enterprise Virtualization Manager interfaces were also removed although the `ifcfg-*` file remained in the system. This was caused by a subtle timing issue with `ifcfg-*` files being available from the previous setup, and as a result the host became inaccessible. This was fixed to ensure a single point for configuration files throughout the life of the system.

In some circumstances hypervisor installation failed to create all required sub-directories of the `/var/log/` directory. Attempts to register such an installation to the Manager failed because the `/var/log/vdsm-reg/` directory did not exist. The hypervisor has been updated to ensure that all required sub-directories of the `/var/log/` directory are always created during installation.
The vdsm package was blocking the setools-libs-python and setools-libs packages from being included, so during bootup, the setools module required by vdsm-tool was not found. This fix unblocks both packages, as a result the setool module is now imported correctly with no errors at boot time.

BZ#894228

The vdsm package was blocking the libsemanage-python package from being included, so during bootup, the vdsm-tool reports the error "Import Error: No module named semanage". This fix unblocks the libsemanage-python package, as a result the semanage module is now be imported correctly with no error at boot time.

BZ#863994

Dell machines using smbios 2.6 or later use the biosdevname utility for device naming in Red Hat Enterprise Linux 6. Previously when configuring hypervisor networking on machines using biosdevname for device naming the error "cp:cannot stat'/etc/udev/rules.d/70-persistent-net.rules':No such file or directory" was displayed. The hypervisor has been updated and this error is no longer encountered when configuring networking on machines that use biosdevname.

BZ#864630

Previously, vdsm certificates needed to be regenerated upon boot-up. This fix makes the /etc/pki directory persistent so that vdsm and other services' future certificates will persist automatically.

BZ#865564

The dracut configuration which generates the initrd file was being stripped out of the build. This resulted in errors when the ovirt-boot functions were being loaded. This fix prevents the minimizing of the dracut configuration and also fixes the sourcing of the dracut functions.

BZ#823738

The ability to regenerate initramfs when changes are being made to the boot kernel has been added to the plugin injection tool. This ability is required to successfully boot the hypervisor during the plugin injection process.

BZ#867387
The build server environment prevented the inclusion of the `sch_ingress.ko` kernel module. As a result, enabling port mirroring on Red Hat Enterprise Virtualization Hypervisor failed with a fatal modprobe error caused by modules which were missing from the build. This fix instructs the kernel to keep the `sch_ingress.ko` kernel module available, thereby allowing the module to be loaded and port mirroring to be enabled.

**BZ#828142**

Previously, if the old password was not entered during installation, a new password could be set. This meant that during upgrade, an administrator could change the password without ever knowing the previous password. This fix ensures that the previous password has been entered and verified correctly before allowing the password change.

**BZ#872115**

A TUI installation of Red Hat Enterprise Virtualization Hypervisor failed to create the `vdsm` configuration file `/etc/vdsm/vdsm.conf`. This caused Red Hat Enterprise Virtualization Manager to report that installation had failed when adding the host. The solution was to correctly detect a system being installed by examining the kernel boot parameters instead of parameters handled by oVirt.

**BZ#874530**

The driver required for supporting isci hardware was not included in the initrd at boot time. Consequently, a kernel panic occurred after rebooting a successfully installed Hypervisor on a system which used devices classified as isci hardware. This fix includes the isci sas kernel module in the initrd. isci devices are now recognized upon boot.

**BZ#825146**

When attempting to change the SNMP password on the web interface for Red Hat Enterprise Virtualization Hypervisor, the password did not change to the updated one, and the existing password would remain in effect. This new fix ensures that the password is updated when the field is updated. Changing passwords now works correctly with SNMP authentication.

**BZ#824800**

Previously, the ovirt log subsystem recorded the RHN Proxy password provided by the administration in plain text. This fix masks the password in the ovirt log file to prevent sensitive authentication information appearing in log files.

**BZ#831177**
Red Hat Enterprise Virtualization Hypervisor 6.3 no longer uses a separate boot partition. This deprecates the boot partition setting in the `storage_vol` parameters for the Red Hat Enterprise Virtualization Hypervisor during automated installs. To maintain backwards compatibility, the format for the `storage_vol` command has remained the same, but the options provided for the BOOT partition will be silently ignored.

**BZ#883391**

Previously, running the Windows sysprep command on a Red Hat Enterprise Virtualization Hypervisor system with more than 8 loopback interfaces would result in "Error creating the requested desktop." The maximum amount of loopback devices was set at 8 which limits the number of virtual machines running sysrep at the same time. This fix raises the maximum from 8 to 256 loop devices. The maximum can be changed by changing the kernel boot parameter `loop_max`.

**BZ#825160**

Previously, changing the network configuration of the Red Hat Enterprise Virtualization Hypervisor while `netconsole` was enabled resulted in a kernel panic ("Kernel panic - not syncing: Watchdog detected hard LOCKUP"). This kernel bug has now been fixed, and the hypervisor has been updated to include a later kernel release that does not have this bug. Changing the network configuration of the Hypervisor with `netconsole` enabled will not result in a kernel panic.

**BZ#880099**

`/usr/sbin/rpc.idmapd`, which is required by NFS v4 for domain support, was blacklisted by Red Hat Enterprise Virtualization Hypervisor. The error "No such file or directory" results when executing the command. This fix has removed `/usr/sbin/rpc.idmapd` from the blacklist, the service should now run as required.

**BZ#879542**

In an automatic installation, a kernel panic occurred when there are two or more LVM physical volumes (PV), and not all are referenced in the `storage_init` parameter. This fix ensures dracut shows the missing PV elements during the installation when attempting to remove LVM metadata.

**BZ#878743**

Previously, syslinux and isolinux were not correctly detected, so installation using USB boot media failed. This has been corrected so that installing from USB boot media succeeds.

**BZ#885018**
Previously, when a kernel dump is configured with a local path in Red Hat Enterprise Virtualization Hypervisor, the dump file failed to be generated. This occurred due to the increase in memory requirements of the kdump crash kernel causing out of memory errors when the crash kernel is started. This patch increases the assigned memory size to prevent the out of memory errors. The kernel dump file correctly generates.

**BZ#826860**

Previously, the default Hypervisor kernel boot options included a missing splashscreen option in grub. Without that option, when attempting to edit the kernel command line the grub console placed help text corresponding to the characters typed, rather than the characters themselves. Now, the splashscreen option is only added if a splashscreen file is present.

**BZ#873190**

Previously, a fault in the TUI caused an error message stating "Maximum recursion depth exceeded" due to navigating between menus too many times. This has been corrected, so no recursion issues occur when navigating through TUI menus.

**BZ#826922**

When installing Red Hat Enterprise Virtualization Hypervisor using a USB device, the system failed to boot from a local disk in UEFI mode. The grub device ordering changed when Red Hat Enterprise Virtualization Hypervisor was installed, so the system could not recognize the local disk correctly. This fix changes the device ordering by removing old EFI entries and setting hd0 as the boot device in the EFI grub configuration file.

**BZ#873115**

Regardless of what size the logging partition has been set to in the installation, it defaults back to 2048MB after installation. This was caused by an incorrect set up of custom storage size in the configuration values used. This fix allows the installer to use the specified size if size if provided.

**BZ#886390**

Previously, when installing Red Hat Enterprise Virtualization Hypervisor via TUI, an error that the device is not available appeared. This error occurs when a guest storage candidate, which is not necessarily the storage Red Hat Enterprise Virtualization Hypervisor will be installed on, fails the checks. However, the installation proceeded successfully regardless of the error. This fix logs the information about the failed candidate to a file instead of the screen.

**BZ#869631**
On a Red Hat Enterprise Virtualization Hypervisor TUI installation, selecting a target device to boot from in the "Other Device" category does not uncheck the "Other Device" category. This is intended behavior. For clarification purposes, this fix will uncheck "Other Device" and will only put a checkmark on the target device chosen.

BZ#827383

Previously, a successful kernel upgrade of a Red Hat Enterprise Virtualization Hypervisor node did not result in the default boot option in grub being changed to the latest kernel version. Additionally, the backup kernel option in the grub menu would not boot. Now, the grub menu is updated to boot the latest kernel by default, and the backup kernel option works as expected.

BZ#869172

After a successful TUI installation of Red Hat Enterprise Virtualization Hypervisor, passing the boot option "BOOTIF=eth0 storage_init=ata firstboot" on auto installation failed to find all components of a LVM Volume Group. The storage_init logic was modified to correctly determine where LVM components would be when a bus was provided. Two passes were introduced which parsed and translated the device names into LVM device names to allow for a comparison.

BZ#868776

Previously, due to a miscalculation when using the disk space check page, available space and required space were incorrect. Consequently, the Red Hat Enterprise Virtualization Hypervisor could not be installed due to not having enough disk space. This has been fixed so that disk space is calculated correctly.

BZ#888650

The edit-node option "--install-kmod=kmod-tg3" was reported as an invalid option. This fix improves usability by allowing the user to use the "--install-kmod=kmod-tg3" option as the feature is documented in the man pages.

BZ#868762

Previously, a boot option of "Boot (Basic Video)" appeared in the Red Hat Enterprise Virtualization Hypervisor boot prompt when booting from the installation live CD. When chosen, this option would boot the hypervisor installation process instead of booting the hypervisor. This boot option was removed from the installation image to prevent confusion.

BZ#889198
Previously, a small script was missed from the python upgrade. This meant a user could accidentally install to an incorrect storage device, erasing valuable data. The script has now been included.

BZ#866269

When registering Red Hat Enterprise Virtualization Hypervisor to Red Hat Network (RHN) or the Subscription Manager, the registration failed with "invalid credentials". This was caused by a regression introduced by another fix where the passwords were masked in log files. The passwords were being submitted still masked. The solution was to duplicate the list values instead of having both the logging function and the authentication function share the same dataset.

BZ#823736

Yum has been included on the final install image to allow for offline installation of packages. The yum command must have the \texttt{--force} parameter to execute properly. This feature inclusion was added to assist in delivering custom packages from engineering and not for regular use.

BZ#823735

The \texttt{edit-node} command has been augmented to allow for additional packages to be installed. These can be regular packages or driver update packages. The \texttt{--install-dup} option has been renamed to \texttt{--install-kmod} and an additional option \texttt{--install} for standard RPMS has been included.

BZ#824854

Previously, Red Hat Enterprise Virtualization Hypervisor used \texttt{ID_SCSI_COMPAT} from udev to populate the device description in the storage selection screen. If a device did not have that parameter defined, it would check if it was a virtio disk. If it was not a virtio disk, it would display "unknown". This fix will check on the \texttt{ID_SERIAL} field and use that information if \texttt{ID_SCSI_COMPAT} is not available. If both information are unavailable, it will display "unknown".

BZ#816659

Previously, the Red Hat Enterprise Virtualization Hypervisor Blue build spent 90% of process execution time in generating manifest information. This enhancement reduces the time spent creating manifest information by implementing a more optimized routine.

BZ#834207
Previously, the live media being used to install Red Hat Enterprise Virtualization Hypervisor appeared as a possible installation target if the installation media was managed by multipath. Now, installation media is filtered out from the list of possible installation targets.

BZ#895413

Previously the Red Hat Enterprise Virtualization Hypervisor TUI installer tried to populate the disk details widget on the root device page, even when "Other Device" was selected. This failed and raised an exception. Now the TUI installer only shows details when known devices are selected from the list, and not for the "Other Device" entry.

BZ#811586

A manpage for node-creator has been created.

BZ#837249

Previously the oVirt log revealed the RHN proxy password in plain text. A fix has been implemented to conceal the password as 'XXXXXXXX'.

BZ#811585

A manpage has been created for edit-node.

BZ#808469

Previously, the Red Hat Enterprise Virtualization Hypervisor installer would not start on HP dl380g6 and HP dl580g5 machines when booting from ISO created using dd. There has now been an update to mount_live to support media created using dd.

BZ#857378

Previously, Red Hat Enterprise Virtualization Hypervisor created the host volume group not on the user-selected disk and on the booting disk. This was caused by logic error in parsing the available disks to be used during installation. This fix instructs the installer not to create the HOSTVG on the boot disk unless the user has explicitly directed it.

BZ#852715

GlusterFS client packages have been included in the Red Hat Enterprise Virtualization Hypervisor base image. This is to enable the Red Hat Storage Server client functionality of storing Red Hat Enterprise Virtualization images in the Red Hat Storage Server pool.
The CPU Details Info section of the status page has been improved to include more information. It now lists CPU Name, CPU Type, Virtualization Extensions Enabled, Flag, CPU Sockets, and CPU Cores.

Previously, after a successful upgrade of a Red Hat Enterprise Virtualization Hypervisor node installed on EFI, the grub boot menu only contained an entry to boot the updated kernel. It was not possible to roll back in the event of a bad install or some other incompatibility with a new build. Now, a fall-back option is left in the grub menu in case the previous kernel is required.

The rpcbind service was previously removed from Red Hat Enterprise Virtualization Hypervisor to prevent hypervisor nodes from being used as NFS servers. The rpcbind service is required for a hypervisor node to mount NFS shares, and is now added back.

An unmounted EFI partition caused a hypervisor upgrade to fail in an UEFI machine. This patch updates the grub configuration file path for UEFI upgrades, so upgrading the hypervisor succeeds as expected.

The functionalities `--install` and `--install-plugin` have been disabled in the `edit-node` script in line with the supported functionalities in Red Hat Enterprise Virtualization Hypervisor 6.4. Only driver update package (DUP) injections are supported.

A warning now appears if a user has caps lock on when prompted for a password.

Previously, it was possible to configure rsyslogd and netconsole, two network-dependent services, on a Red Hat Enterprise Virtualization Hypervisor node without networking properly configured. This was potentially confusing. Now, it is not possible to configured rsyslogd and netconsole on a hypervisor node until networking is configured, and a hint has been added to the configuration screen for these services to inform users that networking must be configured first.
Previously, it was possible to accidentally include spaces when attempting to set the `snmpd` password. This would cause the authentication to fail later with an error saying 'password length is too short'. Now, spaces in passwords have been blocked with an appropriate error message.

The UIDs and GIDs of Red Hat Enterprise Virtualization service accounts (like KVM and VDSM) can now be configured using the `edit-node` command from the `ovirt-node-tools` package.

When loading the Red Hat Network (RHN) screen the Red Hat Enterprise Virtualization Hypervisor previously used the `rhn_check` command to determine whether the machine was registered to RHN. This led to delays on systems with slow network connections. As a result the screen appeared to flicker when loading the RHN configuration screen. The hypervisor now checks the local file system to determine whether the system is registered to RHN, eliminating the delay.

Previously, a Red Hat Enterprise Virtualization Hypervisor node that registered with Red Hat Network using a proxy displayed the URI and port of the proxy server in the same field, leaving the "Port" field blank. Now, the proxy server's address and port are displayed separately in their respective fields.

Previously, the device dictionary used to provide vendor information for ethernet devices failed when an ethernet device had a VLAN ID appended to it. Now, the VLAN ID is not considered when querying the device dictionary for vendor information.

Previously, an issue with the kdump menu meant that disabling the network and then failing to set local options before pressing the "apply" button caused Red Hat Enterprise Virtualization Hypervisor to report "Kdump configuration failed, location unreachable". Now, failing to set the local options and pressing "apply" does not change any configurations.
Previously, when invalid static network configuration settings were entered into the Red Hat Enterprise Virtualization Hypervisor TUI, the type was set to "static" for the runtime of the TUI and never changed during the runtime of the TUI, even if the configuration was successfully changed to use DHCP. Now the correct configuration type is updated correctly when network configuration changes.

BZ#858629

A ping test was added to the Network page of the Red Hat Enterprise Virtualization Hypervisor TUI, to enable basic networking diagnostics.

BZ#890283

Previously, cancelling the Red Hat Enterprise Virtualization Hypervisor TUI network configuration ping test incorrectly returned users to the "Confirm NIC configuration" page, rather than the "Network" page. Now, when the ping test gets cancelled, users are returned to the TUI's "Network" configuration page.

BZ#858983

Previously, changing network interface drivers from bnx2 to e1000 on VLAN tagged network interfaces failed. The driver would revert to bnx2, and vendor information would no longer be displayed. This was because the VLAN tag changed the name of the interface, and the properties of the parent interface were not parsed correctly. Now, the udev properties of the parent interface are used with the tagged interface, and the interface is populated with the correct vendor information. The bnx2 driver remains the selected driver instead of reverting to e1000.

BZ#887743

Previously the sam_check function was based on the return value, which was 0 whether the hypervisor was registered to Satellite or Red Hat Network. sam_check now looks for a Satellite-specific string to determine whether the Subscription Asset Manager is used. When a hypervisor is successfully registered to Satellite the URL and CA fields are automatically populated.

BZ#837228

Previously, when subscribing to the Red Hat Network, a failed subscription attempt would cause ovirt.log to fill with redundant characters. This has been fixed so that when attempting to subscribe fails, the correct error message appears in the log.

BZ#887149
An exception occurred when attempting to view CPU details of a host which had virtualization extensions disabled. Now, only the CPU section in the virsh capabilities specification is checked, so the CPU details of the host can be accessed even if the host does not support hardware virtualization.

**BZ#835495**

Previously virtual network interfaces (vnet0) were shown in the list of available network devices on the network page. This update filters out all interfaces prefixed with vnet, so vnet devices no longer appear on the list.

**BZ#881570**

Previously, it was not possible to create a host volume group on two separate devices, therefore users could not install a hypervisor on two different disks. This issue has been fixed, and a hypervisor installation using multiple disks succeeds.

**BZ#880938**

Previously, when an existing host volume group was detected on an installation device, users were prompted to overwrite the host volume group. Now, if a host volume group is detected on an installation device, users are prompted to reboot the hypervisor and select the reinstall option.

**BZ#880925**

Previously, when attempting to change a boot device from /dev/vda to "other device", Disk Details would still show /dev/vda. This has been fixed so that Disk Details accurately reflects the change of boot device.

**BZ#830691**

Previously, existing nameservers were overwritten when a new network interface card was added and configured with DHCP. This update adds the "PEERDNS=no" parameter when nameservers are provided, to prevent overwriting existing nameservers.

**BZ#825735**

There is now a TUI screen to set partition sizes when configuring the hypervisor.

**BZ#865237**
Previously, users could not register the hypervisor with the Red Hat Network using an activation key defined via PXE. This has been corrected so that the registration works via PXE as expected.

**BZ#880030**

Previously, a successful kernel upgrade of a Red Hat Enterprise Virtualization Hypervisor node in UEFI mode updated the backup boot option in /grub/grub.conf instead of /EFI/redhat/grub.conf. Booting the backup option from the grub menu in UEFI mode failed as a result. Now, the correct grub configuration is updated on upgrade, and the backup kernel boot option works as expected in UEFI mode.

**BZ#825955**

Previously, SAM security certificates were not stored individually. When a SAM-registered Red Hat Enterprise Virtualization Hypervisor node was rebooted, it would be unable to obtain a SAM status upon reboot. Now, SAM security certificates are stored individually, and SAM-registered Red Hat Enterprise Virtualization Hypervisor nodes can successfully obtain their SAM status after rebooting.

**BZ#879498**

Previously, an issue in the TUI caused DNS server information to incorrectly display when attempting to perform network configuration. This has been fixed so that DNS server information appears and disappears according to whether or not it has been configured in Red Hat Enterprise Virtualization Hypervisor.

**BZ#826363**

It is now possible to add 3rd party driver updates to Red Hat Enterprise Virtualization Hypervisor ISOs.

**BZ#866283**

Previously it was required to persist the /var/lib/rhsm/productid.js file when registering nodes to Subscription Asset Manager, but the file did not exist on the hypervisor server. Now, persisting the /var/lib/rhsm/productid.js file is no longer necessary, and registering the hypervisor to SAM succeeds.
After registering the hypervisor to Subscription Asset Manager and running the `ovirt_store_config` function, it was printed in `ovirt.log` that the `/var/lib/rhsm/productid.js` file was successfully persisted, even though the file did not exist in the hypervisor. `ovirt_store_config` has now been updated to skip the `/var/lib/rhsm/productid.js` file, so it is not listed in `ovirt.log` as a persisted file.

**BZ#866300**

Previously an indent level was missing for the `ovirt_store_config` function, so only the last filename was persisted. The logic for the `ovirt_store_config` function has been updated, and the indent level has been corrected so all required files are persisted.

**BZ#876899**

Previously, when a user entered a profile name that consisted fewer than three characters, registration failed without providing the user with an error message explaining that profile names must contain three or more characters. Now, attempting to register a profile name with fewer than three characters causes an error message to appear that reads "RHN Profile Name must be at least 3 characters".

**BZ#871212**

It is now possible to atomically persist configuration files. This feature allows users to update persisted files without overwriting the files' content and potentially breaking the system with misconfigured code.

**BZ#867265**

Previously, the hypervisor created LVM partitions for HostVG and AppVG using the same hard disk. The `cross_check_host_app` function, which checks whether there was an overlap between AppVG and HostVG, was called when the partition was initialized, so it did not work. Now, the overlap between AppVG and HostVG or RootVG is checked when the actual partitioning is performed, so `cross_check_host_app` works as expected.

**BZ#874377**

Previously, an issue with imprecise KVM detection caused the TUI to fail to recognise when Intel/AMD virtualization support had been turned off in the BIOS. This has been fixed so that now both the TUI and the login screen show an error message if virtualization support is turned off.

**BZ#867746**

Previously, it was possible to enable the Common Information Model (CIM) service without specifying a password. Now, users are forced to supply a password prior to enabling CIM.
BZ#867784

Setting a static protocol for a network on the TUI did not set the corresponding value in the configuration files, so static IP could not be set. Instead, the DHCP option would override the provided IP. Now, the static IP configuration information is correctly set in /etc/defaults/ovirt, so configuring a static IP succeeds.

BZ#867832

Previously, activating and then leaving a field without any input would cause a popup saying "Invalid Entry". Now, if the field is empty, the error does not appear.

BZ#868194

After successfully registering a hypervisor to the Red Hat Network, it appeared on the TUI that the hypervisor had been registered to Satellite instead. The rhn_check URL comparison function has been fixed, so now when a hypervisor is registered to RHN, the Satellite fields cannot be edited in the TUI.

BZ#868200

Previously, attempting to cancel a network ping test would fail and the ping would complete and output results anyway. Now, cancelling a ping test correctly stops the command.

BZ#868206

Previously, when a network was disabled prior to configuring kdump, an error displayed saying kdump could not be configured. This was not accurate, as kdump could still be configured locally. Now, when a network is down, a notice appears that kdump cannot be configured using NFS or SSH.

BZ#868209

The value of bytes used in the random number generator entry now displays up to five characters.

BZ#872502
Previously, translating the disk name to a name used by LVM was not consistent. In addition, the `dd` command was used to remove the label from the disk, which changes the disk layout without informing the kernel, and led to problems with the kernel device mapper. Consequently, automatically installing the hypervisor using the "BOOTIF=eth0 storage_init=/dev/sda,/dev/sdb firstboot" parameter failed. Now disk names are translated consistently into a multipath representative used by LVM and the disk label is removed in a safe way. As a result, automatically installing the hypervisor using two boot disks creates a root backup on one disk, and the HostVG on the second disk.

**BZ#868215**

An exception occurred when the partition logging size was set to 0, and the installation process was terminated. Now, minimum log size for the partition is 5MB. If a user tries to set the log size as 0, an error message reminds users to set a value of 5MB or higher.

**BZ#872114**

Previously, it was assumed that no host volume group existed on an installation device which had already been wiped, but this could be the case when the physical volume existed on a disk which was not wiped. Consequently, a new host volume group could not be created on a device which already had an existing volume group, and no helpful error message was provided. Now a message is added to ovirt.log which explains that the existing host volume group prevents the creation of the new host volume group, and the installation is aborted if this condition is met.

**BZ#868848**

Previously, the hypervisor installer could accept and save an invalid value for the number of RNG bytes used. Now, a callback has been added to verify the input of RNG bytes used, and only positive integers without letters or special characters are accepted.

**BZ#827408**

The `netconsole` service was not enabled by default, therefore console log messages were not automatically forwarded from the hypervisor to a configured remote host. `Netconsole` is now enabled by default, and all messages above the threshold specified in `/proc/sys/kernel/printk` are forwarded.

**BZ#869513**

Previously, SSH could be configured for kdump when an incorrect password was provided. kdump now verifies that the SSH connection is set up successfully before finishing configuration. If a wrong password is provided, an error message appears explaining that kdump configuration failed because the location was unreachable.
When two DNS servers were configured, removing a DNS server value using the hypervisor configuration screen was not reflected in `/etc/resolv.conf`, so the DNS server remained in use. Now, if the first DNS server value is left blank or deleted, the second server will be used as the first DNS server.

Attempts to ping a host when an invalid host name was provided yielded meaningless error messages. Now, pinging a host which cannot be reached returns the error message "ping unknown host", and pinging a host using unrecognised characters returns the error message "invalid hostname".

Changes to `/etc/ntp.conf` were not persisted when no networks were set. Consequently, upon reboot all changes were replaced by default NTP values. This update persists changes to `/etc/ntp.conf` when it is changed, regardless of whether networks are set.

Automatically installing the hypervisor to a non-existent disk yielded an unhelpful error message because of an ovirt-early mask implemented for testing the disk's validity. Now, automatic installation attempted on a non-existent disk reports "Device specified in storage_init does not exist".

Setting an invalid NFSv4 storage domain for the hypervisor yielded an unhelpful error message, which persisted after reboot. Now, the hypervisor checks that the NFSv4 domain is valid before applying the configuration, and a helpful error message displays if the domain is invalid.

When the NFS or SSH options in kdump were enabled then disabled, the `kdump.conf` file did not persist this change. Now, if all kdump options are not configured, kdump is stopped. When the hypervisor is rebooted, the `kdump.conf` file will revert to its original state from installation.

Previously the `netconsole` service was configured and started correctly, but it also stopped immediately upon boot because of a mandatory network restart. Now the service is restarted after the network is up, so `netconsole` is correctly enabled.
When a host name was not provided for the hypervisor during installation, it did not show up on the manager administration portal. Now, the host name is automatically set to `localhost.localdomain` if it is left blank, and registration to the manager works as expected.

Previously, the version of `virt-who` included with the Hypervisor did not honour the parameters passed to it when run from the command line. Now, `virt-who` honours parameters passed to it from the command line. Passing `virt-who` the `-d` parameter, for example, causes debugging information to be written to the log file.

Previously, a bug with `cgroups` prevented the `cgconfig` service from working correctly. The `cgroups` bug has been resolved, and now the `cgconfig` service works as expected.

Previously, when a host name exceeded the 64-character limit, a warning message appeared but the configuration was still applied. Now, if the host name exceeds 64 characters, a warning message appears, and the host name is reset to `localhost.localdomain`. A host name can be successfully set if it is shorter than 64 characters.

Previously, the function that was used on the Hypervisor to stop all logging services only stopped one, leaving `/var/log` busy. Now, when the `unmount_logging_services` function is called, it stops all logging services, leaving `/var/log` free and available.

In the Hypervisor installation screen, the keyboard layout menu is now in alphabetical order.

When registering the hypervisor to Red Hat Network, if an invalid CA path was supplied, no helpful error message appeared on the user interface or on `ovirt.log`. Now, if the CA path is invalid, an error message appears informing the user that the certificate could not be retrieved and logs the message to `ovirt.log`. 
Previously, pressing the reset button on the network configuration page would erroneously direct to the network interface configuration page instead of removing unsaved information. This has been fixed so the reset button works correctly.

Previously, the Restore (Local) option for kdump could not be disabled after it was configured. Now, the Restore (Local) option is automatically enabled and cannot be disabled if the NFS or SSH options are disabled.

Previously, it was possible to set 'other device' as a storage device by mistake during installation, causing the process to eventually fail. This has been fixed so that an appropriate error message appears when trying to set 'other device' during installation.

When no IPv4 settings were entered in the Hypervisor's TUI Network configuration screen, hitting apply led the network to be configured using DHCP. Now, the network can only be configured if one of the boot protocols has been selected, instead of defaulting to DHCP. Users who attempt to apply an invalid network configuration will be prompted to select a valid boot protocol.

Previously, if the desired root filesystem size was larger than the actual root partition during an automated Hypervisor installation, the installation failed without providing useful information in the log file. Now, if the desired root filesystem is larger than the actual root partition, the installation failure message clearly states that the partition is too small.

Previously, the Hypervisor handled the storage of SNMP and CIM passwords differently. When a CIM password was set, it was stored regardless of whether CIM was enabled. When an SNMP password was set, it was stored only if SNMP was enabled. Now, both SNMP and CIM passwords are stored only if the services are enabled.

The installation screen for the hypervisor now provides an example format (example.redhat.com) to guide users in specifying an NFSv4 domain as a remote storage location.
Disabling a network using the hypervisor text user interface did not change the onboot parameter in the corresponding `/etc/sysconfig/network-scripts/*` file, so the network was not disabled properly. Now, all network scripts are reset before new ones are configured, so networks can be disabled properly.

Previously, it was possible to enter a VLAN id into the network details page of the hypervisor installation screen, even when the network was disabled. Now, the VLAN id field is only enabled if the network is enabled.

Previously, a hypervisor's `/etc/sysconfig/rhn/up2date` file was not removed when switching RHN configuration to a different type of account (for example, SAM or Satellite). This caused a hypervisor that had been registered to a Satellite server to throw an exception. This behaviour has been corrected, the `up2date` file is removed before attempting re-registration. Now re-registering after a hypervisor reboot works as expected.

The kdump configuration file was removed when it could not be used to restart the kdump service. This meant that invalid changes to a kdump configuration could overwrite existing working configurations. Now, working kdump configuration files are backed up and restored when changes to kdump configuration are not usable.

Previously there was some variation on the reboot sequence of a newly upgraded Red Hat Enterprise Virtualization Hypervisor node depending on whether the upgrade had been initiated using the Manager, the TUI, or the command line. Now the reboot sequence is consistent across all three.

Previously, a display issue caused the DHCP and Protocol settings to appear disabled after a hypervisor upgrade using the Red Hat Enterprise Virtualization Manager. This did not affect actual network connectivity. The display issue has now been corrected, so that DHCP and Protocol settings are retained in the display after upgrading.
Previously, the removal of NTP 1 from the Hypervisor's TUI Network configuration page threw an exception and left the user at a blank page. This behaviour has been corrected, and now NTP server 1 information can be successfully removed from the Network configuration page.

BZ#881536

When selecting the "other device" option the setup screen attempted to select the live media device, which was not a valid option. A traceback error message was inadvertently displayed on the screen. The live media device can no longer be selected, and the error message does not appear.

BZ#865687

Previously when a hypervisor tried to register with a Satellite server, and no certificate path was included in the Satellite URI, a recursive `wget` command was used to try and find and download the certificate. This behaviour left users stuck on the "Applying configuration" screen, with no way to cancel the registration. The `wget` command used to download the Satellite's certificate is no longer recursive, and now fails if an invalid certificate path is given.

BZ#860541

When installing the hypervisor using the TUI, pressing the back button now moves through each previous screen rather than returning to the first screen.

BZ#830004

Previously, an error during hypervisor installation would cause the "Configure the Red Hat Enterprise Virtualization Manager connection" screen to appear twice. Although this did not affect the installation process, the second instance of that configuration screen has been removed.

BZ#852245

Previously in Red Hat Enterprise Virtualization Hypervisor's kdump TUI, SSH and NFS locations remained possible options for vmcore files generated by kdump when local storage had been selected. Now, if local storage for vmcore files is selected, NFS and SSH paths are not allowed.

BZ#862351

During installation, `ovirt-auto-install` attempts to stop all processes that are using the log directory before unmounting. The `ovirt-auto-install` process falls into that list, terminating itself. This is because `ovirt-auto-install` has files open in the `/var/log` that are closed before unmounting the directory. This fix directs `ovirt-auto-install` not to kill its own processes.
BZ#865703

Previously, running a reinstallation of Red Hat Enterprise Virtualization Hypervisor failed with "No volume groups found" because the previously created Host VG was still present in the system. This was due to the filesystem layout change in the dracut module which did not take into account that the Red Hat Enterprise Linux 6 dracut module was still using the old filesystem layout. This patch adds backward compatibility for dracut in Red Hat Enterprise Linux 6 by adding the required files.

BZ#866274

Previously, registering the Red Hat Enterprise Virtualization Hypervisor system to Subscription Asset Manager (SAM) constantly failed due to a missing organisation option. The option to specify an organization when registering to SAM has been added in this fix, but is only supported in auto-installation.

BZ#824621

Previously, after registering to Red Hat Enterprise Virtualization Manager, the system's virtual machine migration failed. The resolv.conf file was overwritten with an empty one which resulted in DNS errors that triggered the migration failure. This was caused by the parameter resolv.conf.predhclient which reserves the DNS change and should restore it. Now, resolv.conf.predhclient has been removed, DNS will remain reserved after registration to Red Hat Enterprise Virtualization Manager.

BZ#823899

A basic plugin detail popup page has been created to report plugin information. This page will show plugin information such as base rpm name, Date Installed, version, list of dependent RPMs installed and the list of files modified.

BZ#823751

Changes made by the plugin injection tool will now be stored in the root file system. These records include a list of files changed per plugin and the list of plugins installed including the version and date. This will allow users and administrators to keep track of plugin changes.

BZ#866585

Previously, the boot protocol of a DHCP and VLANID configured network interface card (NIC) on the virtualised system, would revert to "Disabled". The bridge was only pulled from a NIC and not the potential clan children of the NIC. This lead to an incorrect boot protocol information report in the TUI. This patch now checks for potential clan children. Configuring DHCP with a VLANID should now set the configuration to "Configured".
Previously, a newly provisioned Red Hat Enterprise Virtualization Hypervisor node signalled successful installation to provisioning systems using `wget`. This mechanism failed if the provisioning system used a self-signed certificate. Now, the hypervisor uses `wget` with the `-no-check-certificate` parameter to signal a successful installation to provisioning systems.

New manifest files are now generated in the ISO image when making changes to the Red Hat Enterprise Virtualization Hypervisor image. This includes storing the script to generate the manifests in the ISO image. This would allow users to examine the manifest, post-change.

Previously, if DNS server information was entered manually using Red Hat Enterprise Virtualization Hypervisor's TUI interface, it would no longer be possible to use DNS server information attained through DHCP. If the DNS server were to move, the manually entered configuration would still apply. Now, if a hypervisor's network configuration is updated to use DHCP, the hypervisor will use DHCP to find out about DNS servers, even if a DNS server location had been manually entered previously.

The `edit-node` command now shows the modifications to the ISO to reflect the included kmod parameters. This creates a different ISO image name for the node whenever a Red Hat Enterprise Virtualization Hypervisor image is modified for easier identification.

To fulfill the Common Criteria requirements around the maintenance of the RNG seed on the node, a seeding configuration option has been added to the security page to set `SSH_USE_STRONG_RNG`. The bytes used field can be set to increase the RNG seeding size. This feature also saves a seed to `/var/lib/random-seed` for persistent storage to ensure entropy on the system's next boot.

After kdump was configured with a remote NFS server, the dump file was not created in the NFS directory, so kdump did not work. The `link_delay` option, which was introduced to fix a prior issue, has now been removed, so kdump on a biosdevname interface with a bridge works as expected.
The `rhev-hypervisor-tools` package has been removed from Red Hat Enterprise Virtualization Hypervisor in favour of the `livecd-tools` package. Helper tools like the duplication injection utility have been moved to `ovirt-node-tools`. Previous versions of this package will still be available for older versions of Red Hat Enterprise Virtualization Hypervisor.

**BZ#855734**

Because of new support for advanced NFS options, users can choose the NFS server version for their configuration. The TUI menu on remote storage should now show the option to add an NFSv4 domain.

**BZ#785788**

Previously, in some cases, a zombie iSCSI connection prevented Red Hat Enterprise Virtualization Hypervisor from rebooting. The bug was fixed in `iscsi_initiator_utils`, so now zombie iSCSI connections no longer occur.

**BZ#903398**

Previously, a Red Hat Enterprise Virtualization Hypervisor node upgraded from the Manager would have its iSCSI initiator configuration file (`/etc/iscsi/initiatorname.iscsi`) modified as part of the upgrade. The modification could cause a loss of connectivity to storage infrastructure. Now, the upgrade logic includes a check to see if an upgrade or a fresh installation of the hypervisor is being performed, and does not modify the iSCSI initiator configuration file on upgrade.

**vdsm**

**BZ#866935**

On a machine using CCISS scsi adapter, upgrading Red Hat Enterprise Virtualization Hypervisor via Red Hat Enterprise Virtualization Manager consistently failed to detect the storage device, and aborted the upgrade. This fix correctly detects the CCISS devices, and allows upgrades to complete.
Chapter 8. RHBA-2013-0557 — Red Hat Enterprise Virtualization Manager

The bugs contained in this chapter are addressed by advisory RHBA-2013-0557. Further information about this advisory is available at https://rhn.redhat.com/errata/RHBA-2013-0557.html.

8.1. Administration Portal

**BZ#894503**

The strings 'Specific User/Group' and 'Everyone' within the Data Center Tab now appear in Japanese instead of English.

**BZ#894346**

A ja-JP localization issue in which a text string in the Volumes tab was too long, causing a layout error, has been fixed.

**BZ#894507**

A zh-CN localization error within the delete tags has been corrected.

**BZ#894504**

A zh-CN localization error has been corrected in the Event sub tab.

**BZ#894505**

A zh-CN localization error has been corrected in the New Host dialog within the Host tab.

**BZ#894506**

A zh-CN localization error within the Edit Pool tab has been corrected.

**BZ#894501**

A localization error in the 'new quota' dialog box has been corrected.

**BZ#894499**

The 'Import Conflict' window that appears when incorrectly importing a virtual machine now shows its title in Japanese instead of English.

**BZ#894497**
A ja-JP localization error within the Disk tab's 'Remove Disk' dialog box has been corrected.

BZ#894498

A ja-JP localization error within the Clusters tab has been corrected.

BZ#894508

A Spanish localization typographical error has been corrected in the administration portal.

8.2. Backend

BZ#909948

Previously, when adding an IPA domain, DNS was only used for IPA host discovery, after which the address of the IPA server was hardcoded in the 'krb5.conf' file. This resulted in an inability to authenticate if the IPA host was down or moved. Now, a new Boolean, "useDnsLookup", has been added to the 'manage-domains.conf' file so that the information is no longer hardcoded in the 'krb5.conf' file, resulting in a non-static address for the IPA domain.

BZ#906368

Previously, certain backend calls would sometimes cause environments with a high number of virtual machines and users to lock up the user portal, regardless of how many virtual machines were allocated to the individual user. Now, the calls have been organised more efficiently to prevent scaling issues.

BZ#907461

An asynchronous task cleaner utility has been added to the 3.2 environment. This allows the user to examine individual asynchronous tasks or zombies, and decide to keep or clean them.

BZ#902482

Previously, when attempting to delete multiple images in quick succession, the image status would remain locked. This has been corrected so that the image status is correctly set to illegal.

BZ#905499
Previously, it was possible to move a virtual machine with a snapshot in preview mode, which caused a vdsm error. The moveImage command in vdsm cannot move disks of virtual machines that are in preview mode. An additional validation has been added to MoveDisksCommand to prevent such action.

BZ#891622

Previously, when importing a virtual machine into a 3.1 environment that had been exported from an earlier environment, the wrong video device was set for the virtual machine and template. This has been fixed so that the correct video device is set according to the virtual machine's needs.

BZ#902484

Previously, it was possible to set a virtual machine to hibernate while creating a snapshot. While both processes appeared to succeed, attempting to create further snapshots subsequently failed. Now, the virtual machine is prevented from hibernating during the snapshot creation process to avoid potential errors.

BZ#890203

Previously, manually removing a master storage domain and then attempting to remove it using the GUI would result in the storage domain appearing in a permanently 'locked' status. This was caused by the VDSM reporting "cannot find master domain". Now, the storage domain does not remain stuck in 'locked' status and can be removed correctly using the GUI.

BZ#888312

Previously, when ImportVmCommand auto-generated the disks' aliases, it assigned them all the same alias, vmName_DiskN, where N was the number of disks attached to the imported virtual machine. This has been corrected so that each disk is given a different alias, starting with VmName_Disk1 up to VmName_DiskN.

BZ#910368

Previously, non-administrative users were able to access the /hosts URL despite not having appropriate permissions. This has been fixed so that a 403 Forbidden error will appear when attempting to access the /hosts url without administrative permissions.

8.3. Configuration Tools

BZ#907459
Previously, an error in the kerb.conf file would produce a Kerberos error when attempting to add more than one domain to an environment. This has been corrected so that the .conf file does not prevent multiple domains from being added.

**BZ#907596**

Previously, when adding an IPA domain, DNS was only used for IPA host discovery, after which the address of the IPA server was hardcoded in the 'krb5.conf' file. This resulted in an inability to authenticate if the IPA host was down or moved. Now, a new Boolean, "useDnsLookup", has been added to the 'manage-domains.conf' file so that the information is no longer hardcoded in the 'krb5.conf' file, resulting in a non-static address for the IPA domain.

### 8.4. Installation

**BZ#891632**

Previously, out of date index files left over from a JBoss service would cause updating the Red Hat Enterprise Virtualization environment using yum update to completely crash the environment, displaying 404 errors when the manager tried to load. Now, a small script has been added to automatically remove the out of date index files before completing the update process, which prevents the manager from crashing.

**BZ#910022**

Previously, the taskcleaner utility was located on the dbscripts rpm, which was available only after tasks are cleaned during an upgrade. This inverse sequence caused Red Hat Enterprise Virtualization Manager upgrades to fail. Now, the taskcleaner utility is moved to the tools/dbutils folder, and no longer dependent on dbfunctions. The taskcleaner can now be deployed.

**BZ#907532**

Previously, if Apache was not used as the proxy for the application server, the HTTPS connector would only configure TLSv1 protocol. Connections to the application server using SSLv3 protocol would fail. Now, SSLv3 is supported and can be used to connect to the application server.

**BZ#907150**

Updating or upgrading Red Hat Enterprise Virtualization now places the engine into 'maint' mode rather than starting the engine with different ports.

**BZ#907533**
Previously, the upgrade flag was constantly present after upgrading from Red Hat Enterprise Virtualization Manager 3.0 to 3.1. This prevented installing reports from scratch in the upgraded system. Now, the upgrade flag is not present, and reports can be installed from scratch.

8.5. Notification Service

Previously, the notification daemon could hold open too many database connections over time, eventually taking up all psycopg connection slots causing other applications to not be able to connect. Now, it can only initialize the data source once instead of each event loop, preventing existing connections from being orphaned.

8.6. REST API

Previously, virtual machines started in a paused state were missing values in the port sub-element of the display element of the REST API, resulting in failed virtual machine connection. Now, the port sub-element is returned, and does not inhibit virtual machine connections.

8.7. User Portal

Previously, when attempting to run a 3.0 spice-client in a 3.1 environment, the User Portal would overtake an Administration Portal call and cause the SPICE window to incorrectly scale to the client resolution. This has been corrected so that the SPICE window scales automatically to the client resolution.

Previously, due to an issue with the ConnectAutomaticallyManager, the virtual machine AutoConnect feature would only work once per session; if a user logged out of a virtual machine and then attempted to log back in using AutoConnect, the console would not appear as expected until the portal's browser was restarted. This has been corrected so that now AutoConnect works regardless of how many times the user logs out per session.
Virtual machine connection options in the event of a non-responsive rhev-agent have changed. Previously the virtual machine showed an error and canceled the SPICE connection. Now, a confirmation dialog box appears, warning the user that the virtual machine will have reduced capabilities because the agent is non-responsive. The user may select to run the virtual machine anyway, or cancel. If the user continues, the SPICE console will be opened without SSO.

BZ#915780

Previously, circular references in the user portal caused memory not to be garbage-collected. Consequently after short periods of time (~30 minutes) the browser would exhaust its available memory and start throwing memory errors, sometimes causing memory usage in the 1.5G range.

The circular references have now been found and removed so memory is now cleaned up properly by the garbage collector and the available memory to the browser is no longer exhausted during normal usage of the user portal.

BZ#915783

Previously, unnecessary refreshing of DOM elements combined with poor Internet Explorer 8 DOM manipulation performance caused the user experience using the user portal in both basic view and extended view to be poor.

Now, the amount of DOM manipulations, if no data actually changed, has been reduced. For IE8 only, the default refresh rate has been changed to 30 seconds so there is a larger gap between CPU spikes making for a vastly improved experience.

BZ#915925

Previously, the script fkvalidator.sh was stored in dbscripts, which did not activate until after the pre-upgrade process, even though it was required before the pre-upgrade. Now, a common.sh script has been created that stores commonly used environment settings and fixes multiple issues including the fkvalidator.sh issue.

BZ#915779

The taskcleaner utility was called with localhost parameters only, ignoring remote database settings. Consequently, upgrading the Manager using a remote database failed, because of incorrect taskcleaner utility execution. Now, the correct parameters are added when executing the taskcleaner utility, so upgrading the Manager on a remote database server succeeds.
Chapter 9. RHBA-2013:0773 — Red Hat Enterprise Virtualization Manager

The bugs contained in this chapter are addressed by advisory RHBA-2013:0773. Further information about this advisory is available at https://rhn.redhat.com/errata/RHBA-2013-0773.html.

9.1. Administration Portal

BZ#956076

The validation of virtual machine memory size used an obsolete value, so users could not assign more than 256 GB memory to a virtual machine. The validation now uses the supported value of 2 TB. Users can assign maximum 2 TB memory for 64-bit virtual machines.

9.2. Backend

BZ#949693

Exporting a virtual machine or template which was created in a 3.1 environment but set to a 3.0 compatible cluster resulted in an OVF file which was not 3.0 compatible. Therefore, the file could not be used in a 3.0 environment. Now, the export process checks the compatibility version of the cluster to which the resource belongs, and creates the OVF files with values that match its version.

BZ#951058

When creating tasks for imported virtual machine images, the parameters entity id was set to the disk id. As a result, the end method of the import virtual machine command was called before the tasks on all disks were finished.

This means that when a virtual machine with multiple disks is imported, the virtual machine and its disks can appear ready even though not all disks have been imported. If a user attempts to run a virtual machine in this state, the virtual machine can become corrupted.

Now, the parameters entity id is set to the virtual machine id, so the virtual machine is unlocked only when all disks have been imported.

BZ#951113

During upgrade the setup script attempts to rename the old default 'rhevm' user to the new default 'engine' user.

When an upgrade was run after a previously failed attempt, and the 'engine' user was not removed from the database, the upgrade would fail.

This update removes the 'engine' role if it exists before renaming the 'rhevm' user to 'engine'.

Previously, runVmCommand did not recognize stateless disks in manual virtual machines pools. Under these conditions, a manual pool virtual machine could not be started again after shutdown. Now, runVmCommand tests if the virtual machine is in a manual pool and does not remove the stateless snapshot so that the virtual machine can be started as expected.

This update adds Snapshot Materialized Views support to the database. A Snapshot Materialized View functions as a cache and allows users to retrieve commonly used queries quickly and efficiently.

Previously, when importing a virtual machine that had snapshots without collapse, the same disk ID was added multiple times, resulting in only one image group being imported. Now, duplicate IDs are not added and multiple disks are imported with the virtual machine.

Unsafe usage of the base64 decoder class caused the decryption buffer to become corrupted, producing "failed to decrypt" error messages on hosts with power management configured. This update removes unsafe and unnecessary encoding classes, so the decryption errors no longer appear.

Compensation when unlocking a virtual machine was performed on each virtual machine, but the defined data access object (DAO) for compensation status updates is mapped dynamically per virtual machine. This caused NullPointerException errors when accessing disk snapshots. Compensation is now performed on the virtual machine's dynamic data, so previewing snapshots does not yield NPE errors.

Previously, when running a stateless virtual machine with several disks, an engine restart would cause the log to be flooded by exceptions, affecting performance. This was due to child parameters of CreateAllSnapshotsFromVm being improperly handled, causing IndexOutOfBoundsException to be thrown at endAction of RunVmCommand and endAction looping continuously. Now, the child parameters of CreateAllSnapshotsFromVm are added correctly as child parameters of RunVmCommand for stateless virtual machines; an engine restart will not flood the log with exceptions.
9.3. Installation

**BZ#905137**

Previously, the answering file for 3.1 upgrade rollback was stored in /tmp, which hampered troubleshooting efforts that required more than a 24-hour period. Now, the answering file has been moved to /var/lib/ovirt-engine/backups/restore_rhevm30_answerfile.

**BZ#949694**

Upgrading the Manager failed when there were leftover compensation entries during the async tasks cleanup. These entries caused the backend to abort when trying to activate the compensation procedure on system startup. The taskcleaner utility now uses the -A flag, which enables rhevm-upgrade to remove all compensation data from the business_entity_snapshot table during upgrade.

**BZ#951110**

Previously, virtio-win version 1.6.3 differentiated between 32- and 64-bit VFD files. Consequently, upgrading the Manager from version 3.0 to 3.1 did not copy the virtio-win VFD files over to the ISO domain. This update adds virtio-win 1.6.3 and higher as a dependency for the upgrade tool, while maintaining backward compatibility with older versions. Upgrading the Manager automatically populates the ISO domain with virtio-win VFD files.

**BZ#949696**

When the FQDN specified in rhevm-setup is in a different case to the name returned by the DNS PTR record, validateFQDN reported that the reverse-resolved name did not match the supplied name and failed the validation, causing rhevm-setup to fail. This update makes validateFQDN case-insensitive, so rhevm-setup proceeds as normal when the case of the supplied FQDN differs to the name returned by the DNS PTR record.

**BZ#947231**

Upgrading the Manager fails when the server is subscribed to both JBoss Enterprise Application Platform (EAP) 5 and 6 channels. Now, rhevm-upgrade checks for the presence of the jbossas-5 package, which indicates that the EAP5 repository is enabled. The upgrade is aborted with a message to disable the EAP5 repository before continuing.

**BZ#951107**

Previously, engine-setup tried to copy non-existent ISO and VFD files from existing rpms, creating unnecessary tracebacks in the log. Now, engine-setup checks that the files provided by the rhev-guest-tools package are present before copying them to the configured ISO domain.
Upgrading the Manager from version 3.0 to 3.1 did not back up sysprep configuration files, so existing sysprep files were overwritten. The upgrade script now includes the function for backing up and restoring sysprep files.

### 9.4. User Portal

**BZ#918735**

In the user portal Basic view, virtual machine action buttons such as Run or Shutdown were missing unique and deterministic IDs, which can cause problems when automated GUI testing tools such as Selenium attempt to access the action buttons. This update adds explicit IDs to the virtual machine action buttons, so automated GUI testing tools can easily interact with the action buttons.

**BZ#956068**

Previously, when taking a virtual machine from a pool of prestarted virtual machines, the status of the virtual machine would not change to "Up" unless the browser was refreshed. This was because PoolItemBehavior.PostTakeVm() loaded the virtual machines from the server and replaced the entity in the UserPortalItemModel. Optimization logic would not detect a change and would not trigger the re-rendering.

Now, this logic has been removed so that the re-rendering is handled by the User Portal refresh cycle and the User Portal shows the virtual machine with a status of "Up".
Chapter 10. RHBA-2013:0774 — VDSM

The bugs contained in this chapter are addressed by advisory RHBA-2013:0774. Further information about this advisory is available at [https://rhn.redhat.com/errata/RHBA-2013-0774.html](https://rhn.redhat.com/errata/RHBA-2013-0774.html).

**BZ#951609**

Previously, VDSM failed to decode the application list if the name of an application contained a non-ASCII character in the name of the guest. This caused guest names to be reported wrongly by rhevm-guest-tools.

Filtering of invalid characters for XML documents is now no longer performed on unicode strings, but on encoded UTF-8 strings.

VDSM now correctly decodes the application list and non-ASCII characters in the names of guests are no longer incorrectly displayed.

**BZ#956072**

Previously, when the host was the SPM, killing the VDSM process and then restarting after 120 seconds resulted in a situation in which VDSM was not able to communicate with the terminated PID. This meant that VDSM was losing its connection to the libvirt socket.

A patch to VDSM allows VDSM to retain its connection to libvirts sockets even after the termination and restart of the VDSM process.

**BZ#948849**

Previously, attempting to migrate multiple virtual machines at the same time always failed, and the failure caused the vdsmd server to restart on the host.

This was caused by a race condition that caused libvirtd to segfault and caused libvirt or VDSM, or both, to crash.

An upgrade to libvirt (libvirt 0.10.2-18.el6_4.4 replaces libvirt 0.10.2-18.el6_4.2) prevents this race condition from occurring.

It is now possible to migrate multiple virtual machines at the same time, and migrating them does not cause the vdsmd server to restart on the host.

**BZ#949679**
Previously, a race condition occurred, which resulted in an exception because the domain had not yet being assigned/created.

Libvirt sometimes sent the SUSPENDED/SUSPENDED_PAUSED event after it had sent the RESUMED/RESUMED_MIGRATED event (when VM status is PAUSED when migration completes, see qemuMigrationFinish function). In this case the value of self._dom is "None" because the function _waitForIncomingMigrationFinish has not yet updated it.

As a result of this race condition, concurrent migrations sometimes failed.

A workaround now prevents the exception from occurring.

BZ#951608

Previously, upgrading to Red Hat Enterprise Linux 6.3 made it impossible to start Red Hat Enterprise Virtualization 2.2 virtual machines. This was due to an issue whereby the NFS images permissions were not properly set so that the qemu user could operate on them.

An improvement to the upgrade procedure sets permissions correctly and allows the qemu user to operate on Red Hat Enterprise Virtualization 2.2 virtual machines.

BZ#949690

Previously, VDSM was unable to export or remove virtual machines in certain cases, especially when orphaned images were present in the storage domain and those orphaned images had been added to the storage domain during live storage migration tests. This meant that in certain cases, you would be unable to remove virtual machines.

A patch to VDSM which allows storage domains to be uncoupled from orphaned images. It is now possible to export and remove virtual machines, even if those virtual machines are associated with orphaned images.

BZ#951612

Previously, VDSM logs were rotated only after 100 logs had accrued on the host. This led to situations in which hosts' filesystems would fill up.

Now, log rotation has been changed so that the logs rotate after ten logs have been accrued.

BZ#950603

A change in libvirt removed the default maximum migration bandwidth of 32 Mb/s. In Red Hat Enterprise Linux 6.4/libvirt-0.10.2-18.el6.x86_64.rpm, the maximum available bandwidth is used by default for migration of KVM guests. In some cases, migrations run under these conditions would cause hosts to become unresponsive. In order to avoid hosts becoming unresponsive, migration capping was introduced that simulates the old maximum migration bandwidth cap in libvirt.
Previously, the "Import more than once" feature failed when you had exported a template and were trying to change the name of the virtual machine.

"Import more than once" now allows you change the name of the virtual machine you are importing.

Previously, exceptions thrown by the _epoll.poll(1) thread were not caught, which stopped communication between VDSM and hosted guest agents. Exceptions thrown by the thread are now caught and logged, so VDSM can restart the thread and communicate with guest agents.

Previously, VDSM logs were quickly filled with VDSM messages and rotated so frequently that it was not possible to use them to diagnose issues.

Storage messages from syslog were filling up the VDSM logs, even though they were irrelevant to the VDSM logs. The location /vdsm/storage/fileUtils.py logs its files to was changed to Storage.fileUtils. This prevents useless storage messages from syslog from filling up the VDSM logs.

resourceManager.registerNamespace() previously raised a KeyError exception. Calling methods were catching any exception, treating all exceptions as KeyErrors, which meant that non-KeyError exceptions were swallowed.

Now only KeyErrors are caught and logged as info (instead of warn), and other potential exceptions are not caught at all, i.e., not swallowed anymore.

VDSM logs are no longer filled as quickly and are also not filled with irrelevant storage log data, and, as a result, are more useful as diagnostic tools.

During storage live migration a placeholder for the volumes was created inside the qcow header in the destination domain. The volumes being migrated inherited the temporary size of the placeholder, which was 10MB. When the space was exceeded, live migrating a preallocated file (for example, NFS) virtual disk to a different storage domain failed. Now, the volume is forcefully created using the sparse format in the destination domain. Preallocated file virtual disks can now be live migrated to different storage domains.
Previously, when setupNetworks referred to a non-existing bond, setupNetworks failed to validate bond options, returning "error parsing bonding options mode=4".

This was because previously existing bond device options were confirmed to exist by a check determining whether sysfs exposed them. In this case, if the request bond did not exist during the check, the error message displayed and the bond options failed to validate.

A patch to VDSM now ensures that when setupNetworks requests a bond that doesn't exist, bond option validation does not fail.

**BZ#951576**

Domain codes and libvirt error codes were mixed by mistake, so restarting the libvirt daemon caused the libvirt client socket to close on Red Hat Enterprise Virtualization Manager. In addition, libvirt reported internal errors if libvirtd is restarted or stopped, for example after a crash. This update resolves the mixed codes and adds missing error codes. Restarting libvirtd now correctly restarts VDSM connections.

**BZ#950009**

Previously, VDSM (libvirtvm.py) tried to read the first found iteration of the following fields when using a network interface:

```
<target>
<alias>
<model>
```

If they did not exist, "vm start" crashed on index out of range, because vdsm always tried to reach the [0] member of a list of attributes, and that does not exist in an empty list.

When SRIOV is in use, the domxml works with <hostdev> interface type, which has no target (no tap dev) and is generally different from other interfaces like bridge and macvtap.

A patch to VDSM makes certain that the different network modes are treated properly and that they do not require parameters that are not always present.

**BZ#953645**
Previously, when libvirt failed, the host would not respond until the connection between VDSM and libvirt had been re-established. This caused the environment to begin fencing, which would lead to an unusable environment.

This was because when libvirt raised a connectivity failure, VDSM would begin fencing. When VDSM restarted, it would also restart the libvirt service. In large scale environments with high host loads, restarting the connection to libvirt took a long time. The long time it took to re-establish a connection to libvirt was the reason fencing started.

VDSM now handles connectivity to libvirt in an external thread, so that VDSM is able to respond to API calls and report its status. The condition that resulted in fencing which in turn resulted in an unusable environment no longer occurs.

**BZ#947888**

Previously, the VM Channels Listener thread did not handle errors, and disconnected the guest from VDSM when errors occurred. Now when errors occur, the VDSM client attempts to re-establish the connection. Erroneous connections are handled by the event loop, and after five or more unsuccessful attempts, the reconnect rate slows down to the time specified for the read timeout.

**BZ#956724**

Previously, the default migration_max_bandwidth (32MiBps) and max_outgoing_migrations (5) settings resulted in the saturation of a 1Gbps link.

The default value of max_outgoing_migrations has been changed to 3.

Bandwidth and migration default settings no longer cause the saturation of a 1Gbps link.

**BZ#949686**

When the vdsm.log file is removed, either manually or by logrotate, the supervdsm user can create the log file and set its ownership to root:root. When this happens, the vdsmmd service is stopped until the user resets the vdsm.log ownership to vdsm:kvm, and restarts the service. This update separates supervdsm log to a supervdsm.log file, so after vdsm.log is rotated it remains owned by vdsm:kvm.
# Revision History

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<td>3.1.1-6</td>
<td>Fri Sep 27 2013</td>
<td>Zac Dover</td>
<td>BZ#1007864 - s/Red Hat/Red Hat</td>
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<td>Wed May 01 2013</td>
<td>Cheryn Tan</td>
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<td>Andrew Burden</td>
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<td>Mon Apr 29 2013</td>
<td>Cheryn Tan</td>
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<td>Tue Mar 12 2013</td>
<td>Cheryn Tan</td>
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