

# Dell EMC PowerEdge Systems Running Red Hat Enterprise Linux 7

Release Notes

## Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

© 2014 - 2019 Dell Inc. or its subsidiaries. All rights reserved. Dell, EMC, and other trademarks are trademarks of Dell Inc. or its subsidiaries. Other trademarks may be trademarks of their respective owners.

# Contents

<b>1 Overview</b>	<b>6</b>
System configuration requirements	6
Memory	6
Installation and upgrade instructions	6
<b>2 Known issues—To be fixed in future releases</b>	<b>7</b>
Unable to create or modify namespace for NVDIMM	7
Chipset watchdog device is not created when the OS Watchdog Timer option is enabled in BIOS	7
Systems with QLogic Cards that are configured with VLAN over Bond fail to shutdown or reboot	7
NetworkManager fails to bring up VLAN interface created over Bond interface	8
NMI message is displayed on Dell EMC AMD systems with NVMe SSDs	8
Bootting into OS with the QLogic FastLinQ QL41000 card setup with iscsi offload logs multiple error messages related to iSCSI session	8
Kernel panic occurs when FCoE function is enabled in QL41000 series adapters	9
Network throughput may not be as expected on Broadcom 25 GB or QLogic 25 GB network cards	9
Kernel panic occurs with AMD processors on Red Hat Enterprise Linux 7.4	9
Turbostat displays an input/output error with AMD processor	9
qed driver probe fails when NIC+RDMA is enabled NPAR-EP partitions in QL41xxx cards	10
Red Hat Enterprise Linux 7.4 with QLogic QL41xxx rNDC cards ping fails	10
SRIOV VFs of Mellanox cards interfaces are named incorrectly	10
Red Hat Enterprise Linux 7.4 and 7.5 display an error message related to softism tokens	10
Red Hat Enterprise Linux 7 displays an error message while searching for a query in Tracker	11
NVMe drive model is displayed as unknown in parted	11
System Monitor displays incorrect number of CPUs	11
Red Hat Enterprise Linux 7 installation may cause Machine Check Errors	11
Caps Lock LED status is always off in CLI	12
Red Hat Enterprise Linux 7 displays incorrect welcome message	12
Red Hat Enterprise Linux 7.4 displays black screen after iSCSI installation using QLogic QL4xxx cards with out-of-box drivers	12
Unable to discover iSCSI LUN during Red Hat Enterprise Linux 7 installation with Intel X-550 cards	13
Unable to shut down Red Hat Enterprise Linux 7 when you select Graceful shutdown option or when you press power button on system	13
Installer displays an exception when installing on an iSCSI disk using QLogic QL41000 qedi based drivers	14
Progress bar is not displayed while copying a file from USB drive to Desktop	14
Link flap messages are displayed during the device probe for QL41xxx devices	15
ip link/ifconfig displays RX dropped packets for QL41xxx based interfaces	15
dmesg displays debug messages for QL41xxx devices	15
Drivers available in OEMDRV drive is not installed during the OS installation	16
Unable to boot to iSCSI after enabling VLAN	16
iSCSI interface is not displayed in Anaconda GUI	16
Disabling SRIOV-vfs of Mellanox-ConnectX-4 cards results in terminal hang	16

mei_me displays hardware start failed messages.....	17
Intel - Sage Flat - iSCSI LUN is not discovered during Red Hat Enterprise Linux 7 OS installation.....	17
Watchdog timer function did not work on Red Hat Enterprise Linux 7.2 .....	17
Recovery is not starting on RAID 01 virtual disk when I/Os are in progress.....	17
Red Hat Enterprise Linux 7.3 displays a ACPI warning.....	18
Red Hat Enterprise Linux 7.3 displays a mcelog error message.....	18
IPv6 UEFI PXE installation fails.....	18
Intel x520 FCoE first boot fails with kernel crash.....	19
irqbalance spam messages with banned CPU conflict.....	19
Coretemp driver adds a limited number of cores.....	19
Turbostat displays incorrect information.....	19
Ethtool reports a lower port speed.....	20
Red Hat Enterprise Linux 7.3 displays an error message for drivers.....	20
Mellanox ConnectX-4 NIC interfaces are named incorrectly.....	20
Unable to read the Base Address Registers address logged in /var/log/messages.....	21
Unable to detect a degraded S130 volume after the reboot.....	21
Unable to install Red Hat Enterprise Linux 7 in the 16th hard drive slot by using unattended installation .....	21
Red Hat Enterprise Linux 7 displays an error message related to network service in var/log/messages .....	21
Unable to assign hot spare in Software RAID configuration when the virtual disk is in use.....	22
ACPI displays warning message when system IO range conflicts.....	22
DWS login fails in Red Hat Enterprise Linux 7.2.....	22
Red Hat Enterprise Linux 7.2 displays a warning message in dmesg logs.....	23
Invalid naming conventions for the Intel X710 card when NPAR or NPAR-EP is enabled .....	23
Red Hat Enterprise Linux 7 displays an error message in /var/log/messages.....	23
Unable to reboot Red Hat Enterprise Linux 7 after the successful installation on iSCSI or FC or FCoE.....	23
Red Hat Enterprise Linux 7 displays an unknown netevent message during FCoE boot.....	24
Ethtool offline test for network devices do not restore its previous state.....	24
Installation on iSCSI LUN displays few unknown symbol messages.....	24
NVMe devices are not identified during Red Hat Enterprise Linux installation.....	24
Unable to restart Red Hat Enterprise Linux 7 after the successful installation on iSCSI LUN.....	25
Red Hat Enterprise Linux 7 might not boot in the UEFI mode.....	25
Installing Red Hat Enterprise Linux 7 by using the iDRAC Virtual Media does not resume if the iDRAC network is set to the shared LOM mode.....	25
Kernel panic occurs when OMSA services are started on Red Hat Enterprise Linux 7.....	25
When Virtual Disk is not initialized, Red Hat Enterprise Linux 7 cannot be installed on 4k sector hard drives....	26
Invalid naming conventions for the ports of Emulex OneConnect OCe14102-UX-D card when NPAR-EP is enabled.....	26
Unable to move soft link .desktop file.....	26
Unable to boot Red Hat Enterprise Linux 7, when the Execute Disable option is disabled.....	26
Unable to install Red Hat Enterprise Linux 7 in the UEFI mode.....	27
While adding second slave to bond, it asks for connection type and shows additional connection types.....	27
Loopback device is displayed as unknown in network settings.....	27
Kernel panic on reboot or shutdown when Mellanox Team is setup.....	27
PCIeSSDs report incorrect pciehp messages during boot.....	28
VMM does not displays Windows Server 2012 in drop-down list.....	28

Ethtool link test fails in Offline mode despite the cable being connected to the port.....	28
PXE boot fails with a system crash when Red Hat Enterprise Linux 7 is installed on local storage and the tftp server has an invalid boot EFI file.....	28
NVMe driver reports I/O error on Surprise Removal or Surprise Insertion.....	29
Reading EEPROM from a Broadcom device via ethtool results in soft lockup.....	29
Error during the first boot on iSCSI disk.....	29
Enabling SR-IOV virtual functions on both Intel and Mellanox cards result in invalid naming conventions for the network devices.....	30
Mellanox card does not display supported link modes as 40G.....	30
Unable to install Red Hat Enterprise Linux 7 on a drive with an existing btrfs partition.....	30
syslog displays error Related to network.service .....	30
Unable to move the OpenManage Server Administrator icon anywhere on the desktop.....	31
ras-mc-ctl command displays DIMM labels related error message.....	31
<b>3 Getting help.....</b>	<b>32</b>
Contacting Dell EMC.....	32
Related documentation for Linux.....	32
Linux videos on Dell EMC PowerEdge servers .....	32
Documentation resources.....	33
Download the drivers and firmware.....	35
Documentation feedback.....	35

# Overview

Red Hat Enterprise Linux 7 is available on the 64-bit Intel architecture.

Topics:

- [System configuration requirements](#)
- [Installation and upgrade instructions](#)

## System configuration requirements

For detailed system configuration requirements of this version of Red Hat Enterprise Linux, see the documentation at [redhat.com/support](https://redhat.com/support).

## Memory

The following table lists the system memory requirements for the x86\_64 architecture of Red Hat Enterprise Linux 7.

**Table 1. Memory requirements for x86\_64 architecture**

Memory	Size
Minimum recommended system memory	1 GB per logical CPU
Maximum certified system memory	6 TB

## Installation and upgrade instructions

For information on installing or upgrading from a previous version of Red Hat Enterprise Linux 7, see *Installation Instructions and Important Information* at [Dell.com/operatingsystemmanuals](https://Dell.com/operatingsystemmanuals).

## Known issues—To be fixed in future releases

### Unable to create or modify namespace for NVDIMM

<b>Description:</b>	Creating or modifying a namespace for NVDIMM fails.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.6
<b>Cause:</b>	The command that is sent by the linux kernel for a device-specific method function is not translated correctly.
<b>Solution:</b>	Before you create or update a namespace, download and install the dd-nfit-3.10.0_957-1.el7_6.iso driver update package from <a href="https://access.redhat.com/downloads/content/69/ver=//rhel---7/7.6/x86_64/product-software">https://access.redhat.com/downloads/content/69/ver=//rhel---7/7.6/x86_64/product-software</a> . For more information, see the Red Hat Knowledge Base article at <a href="https://access.redhat.com/solutions/3920221">https://access.redhat.com/solutions/3920221</a> .

### Chipset watchdog device is not created when the OS Watchdog Timer option is enabled in BIOS

<b>Description:</b>	On the Dell EMC PowerEdge T140, R240, and T340 servers, if the OS Watchdog timer is enabled in BIOS, then the watchdog device node is not created and watchdog does not run.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.5
<b>Cause:</b>	Intel has replaced iTCO with the WDAT watchdog for these platforms. However, WDAT is not supported on RHEL 7.5.
<b>Workaround:</b>	Use BMC watchdog with the systems. For more information about how to setup system, see <a href="https://www.dell.com/support/article/sln312339/">https://www.dell.com/support/article/sln312339/</a> .

### Systems with QLogic Cards that are configured with VLAN over Bond fail to shutdown or reboot

<b>Description:</b>	When a system is rebooted after creating the VLAN over a Bond on two ports of QLogic cards, the reboot process stops and the following error message is displayed: <pre>unregister_netdevice: waiting for &lt;Network-Interface&gt; to become free. Usage count = 2</pre>
<b>Applies to:</b>	Red Hat Enterprise Linux 7.5
<b>Cause:</b>	If RDMA devices are not removed before unregistering the NetDevice, the process of unregistering the NetDevice is paused until the usage count becomes free. So, the system stops responding to reboot.
<b>Solution:</b>	Upgrade the kernel to kernel-3.10.0-862.10.1.el7 or later.
<b>Workaround:</b>	Before rebooting the system, bring down the Bond interface. For more information, see <a href="https://access.redhat.com/solutions/3438871">Access.redhat.com/solutions/3438871</a>

## NetworkManager fails to bring up VLAN interface created over Bond interface

- Description:** When a VLAN interface is created over a Bond interface using `nm-connection-editor`, the NetworkManger fails to bring up the interface at every boot.
- Applies to:** Red Hat Enterprise Linux 7.5
- Cause:** NetworkManager fails to automatically activate child connections when it does not manage the parent device. While booting the system, the NetworkManager looks for the parent device of VLAN connections, and skips the unmanaged Bond. So, the activation of VLAN interface fails.
- Solution:** Upgrade NetworkManager to NetworkManager-1.10.2-14.el7 or later.
- Workaround:** After booting the system, save the VLAN-over-Bond interface configuration again through `nm-connection-editor` to bring up the interface. You can also use the `nmcli` utility to create VLAN over Bond configuration.

## NMI message is displayed on Dell EMC AMD systems with NVMe SSDs

- Description:** While running high intensity I/O on NVMe drives connected to Dell EMC AMD system with EPYC processor, the system displays the following message:
- ```
Uhuh. NMI received for unknown reason 2d on CPU 59.
```
- Applies to:** Red Hat Enterprise Linux 7.4
- Cause:** The AMD iommu driver code used in RHEL 7.4 is old and does not have fixes and enhancements that are available in the upstream kernel. The high intensity I/O to NVMe disks results in huge number of requests to add and remove regions in iommu and the unnecessary regions are flushed. The flushing process occurs very often with the iommu code in RHEL 7.4 and each flush takes longer than expected resulting in a soft lockup scenario.
- Workaround:** Pass kernel boot parameter "iommu=pt"

## Booting into OS with the QLogic FastLinQ QL41000 card setup with iscsi offload logs multiple error messages related to iSCSI session

- Description:** While booting into the server operating system which has the FastLinQ QL41000 card installed with the iscsi offload configuration, displays the following error message, and those error messages are logged by `iscsistart` during `dracut initqueue` stage.
- ```
dracut-initqueue: iscsistart: initiator reported error (15 - session exists)
```
- Applies to:** Red Hat Enterprise Linux 7.5 and 7.6
- Cause:** NPAR setting has to be enabled for setting up iSCSI offload on QLogic FastLinQ QL41000. During `dracut-initqueue` stage, `iscsistart` is trying to establish the iSCSI session for all the partitions that come online, but the session is already established with one partition, hence the `dracut-initqueue` stage error messages are logged.
- Workaround:** These error messages can be ignored because there is no functionality loss.



# Kernel panic occurs when FCoE function is enabled in QL41000 series adapters

<b>Description:</b>	During Red Hat Enterprise Linux 7.4 installation on Dell EMC's 14 <sup>th</sup> generation of PowerEdge R7425, R7415 and R6415 servers, kernel panic occurs when FCoE function is enabled in QL41000 series adapters.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.4 on Dell EMC's 14 <sup>th</sup> generation of PowerEdge R7425, R7415 and R6415 servers
<b>Cause:</b>	This occurs due to an issue with the AMD/iommu driver.
<b>Workaround:</b>	Boot with kernel boot parameter <code>iommu=pt</code> .

# Network throughput may not be as expected on Broadcom 25 GB or QLogic 25 GB network cards

<b>Description:</b>	On Dell EMC's 14 <sup>th</sup> generation of PowerEdge R7425, R7415 and R6415 servers, the network throughput may not be as expected on Broadcom 57414 Dual Port 25 GB or QLogic FastLinQ 41262 Dual Port 25 GB network cards.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.4 on Dell EMC's 14 <sup>th</sup> generation PowerEdge R7425, R7415 and R6415 servers
<b>Cause:</b>	IOMMU queue flush and queue management changes are required.
<b>Workaround:</b>	Boot with kernel boot parameter <code>iommu=pt</code> . For more information, see <a href="https://support.amd.com/TechDocs/56224.pdf">https://support.amd.com/TechDocs/56224.pdf</a>

# Kernel panic occurs with AMD processors on Red Hat Enterprise Linux 7.4

<b>Description:</b>	On Dell EMC's 14 <sup>th</sup> generation of PowerEdge servers with Advanced Micro Devices (AMD) processor and H330 PERC, Red Hat Enterprise Linux 7.4 installation stops and results in kernel panic related to memory cgroups.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.4
<b>Cause:</b>	This issue occurs due to the differences in the NUMA nodes memory layout in AMD platforms.
<b>Workaround:</b>	Boot with kernel boot parameter <code>cgroup_disable=memory</code> .
<b>Solution:</b>	Update the kernel version to 3.10.0-693.5.2.el7 or later.

# Turbostat displays an input/output error with AMD processor

<b>Description:</b>	On Dell EMC's 14 <sup>th</sup> generation of PowerEdge servers with Advanced Micro Devices (AMD) processor, if you run the <b>Turbostat</b> utility with the <b>Debug</b> option, the system displays an input/output error.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.4
<b>Cause:</b>	Turbostat reads the Intel's model-specific registers (MSRs) on AMD platforms.
<b>Workaround:</b>	Use other Command-Line Interface tools such as <b>cpupower</b> .

## qede driver probe fails when NIC+RDMA is enabled NPAR-EP partitions in QL41xxx cards

<b>Description:</b>	On Dell EMC's 14 <sup>th</sup> generation of PowerEdge servers when <b>NIC+RDMA</b> is enabled in the NPAR-EP partitions in QL41xxx card series, qede driver probe fails.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.4 with firmware version 14.02.15
<b>Cause:</b>	Enabling <b>NIC+RDMA</b> in the NPAR-EP partitions creates a resource-shortage with inbox qed drivers version:8.10.
<b>Workaround:</b>	Use QLogic drivers version 8.23 provided by Dell EMC or disable <b>NIC+RDMA</b> in the partitions.
<b>Solution:</b>	Update QLogic drivers from <a href="https://access.redhat.com/errata/RHEA-2017:3489">https://access.redhat.com/errata/RHEA-2017:3489</a> .

## Red Hat Enterprise Linux 7.4 with QLogic QL41xxx rNDC cards ping fails

<b>Description:</b>	On Dell EMC's 14 <sup>th</sup> generation of PowerEdge servers with Red Hat Enterprise Linux 7.4 communication fails on QL41xxx Qlogic rNDC cards
<b>Applies to:</b>	Red Hat Enterprise Linux 7.4 with firmware version 14.02.15
<b>Cause:</b>	Incompatible driver with latest firmware
<b>Workaround:</b>	Use Qlogic drivers version 8.23 provided by Dell EMC.
<b>Solution:</b>	Update Qlogic drivers from <a href="https://access.redhat.com/errata/RHEA-2017:3489">https://access.redhat.com/errata/RHEA-2017:3489</a> .

## SRIOV VFs of Mellanox cards interfaces are named incorrectly

<b>Description:</b>	On Dell EMC PowerEdge servers with Mellanox ConnectX Network cards, if SRIOV is enabled and VFs are created, the network interfaces are displayed incorrectly.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.3 and 7.4
<b>Cause:</b>	There is a race condition between the Virtual Function link creation in <code>sysfs</code> and calling the <code>mlx_5core</code> driver. The Virtual Function links should be created in <code>sysfs</code> before calling the driver to avoid the race condition.
<b>Workaround:</b>	Disable <code>biosdevname</code> by entering boot parameter <code>biosdevname=0</code> . This leads to <code>systemd</code> naming of interfaces.

## Red Hat Enterprise Linux 7.4 and 7.5 display an error message related to softhsm tokens

<b>Description:</b>	After successful installation of Red Hat Enterprise Linux 7.4 and 7.5, the system displays the following error message related to <code>softhsm</code> tokens in <code>/var/log/messages</code> : <pre>gnome-settings-daemon: ObjectStore.cpp (59): Failed to enumerate object store in /var/lib/softhsm/tokens/</pre>
<b>Applies to:</b>	Red Hat Enterprise Linux 7.4 and 7.5

**Cause:** When there is an unconfigured *softism*.  
**Workaround:** This error message can be ignored because there is no functionality loss.

## Red Hat Enterprise Linux 7 displays an error message while searching for a query in Tracker

**Description:** After successful installation of Red Hat Enterprise Linux 7.4, while searching for a query in **Tracker**, the system displays the following error message in `/var/log/messages`:  
`unable to create file '/run/user/0/dconf/user': Permission denied. dconf will not work properly.`

**Applies to:** Red Hat Enterprise Linux 7.3, 7.4, and 7.5

**Cause:** The Tracker-Extract is a module in **Tracker** that is extracting metadata from all the files in the system is reading its own cache incorrectly.

**Workaround:** This error message can be ignored because there is no functionality loss.

## NVMe drive model is displayed as unknown in parted

**Description:** On Dell EMC PowerEdge servers with NVMe drives, **parted** command lists NVMe drive model as `unknown` and displays an error message: `unrecognized disk label`.

**Applies to:** Red Hat Enterprise Linux 7.4

**Cause:** The **parted** command does not read the model name of NVMe drives.

**Workaround:** Use the **sysfs** command to read the model name of NVMe drives.

## System Monitor displays incorrect number of CPUs

**Description:** In Dell EMC PowerEdge servers which have more than 60 CPUs, the **System Monitor** tool displays incorrect number of CPUs.

**Applies to:** Red Hat Enterprise Linux 7.4

**Cause:** System Monitor has the `libgtop` package that uses upto 64 K memory, but output of `/proc/cpuinfo` is more than 64 K and displays incorrect number of CPUs.

**Workaround:** Enter `cat /proc/cpuinfo` at the Command-Line Interface to get the correct CPU details.

## Red Hat Enterprise Linux 7 installation may cause Machine Check Errors

**Description:** After successful installation of Red Hat Enterprise Linux 7.3 and later versions, if the system is restarted into Red Hat Enterprise Linux 7.3 DVD, the system stops functioning and causes Machine Check Errors.

**Applies to:** Red Hat Enterprise Linux 7.3, 7.4, and 7.5

**Cause:** `syslinux` is trying to de-reference an uninitialized pointer.

**Workaround:** After installation is completed, remove the Red Hat Enterprise Linux 7.3 DVD and restart the system.

# Caps Lock LED status is always off in CLI

- Description:** In command line interface (CLI), if **Caps Lock** is pressed, the LED status does not turn on but the functionality works.
- Applies to:** Red Hat Enterprise Linux 7.1, 7.2, 7.3, 7.4, and 7.5
- Cause:** While using an UTF-8 keymap, though the Caps Lock option is enabled, the Caps Lock LED is not updated in TTY mode.
- Solution:** To make the Caps Lock LED function, from Red Hat Enterprise Linux 7.5, the administrator has to create the configuration file using `/etc/udev/rules.d/99-kbd.rules` with the following content, and then reboot the system.

```
ACTION=="add", SUBSYSTEM=="leds",
ENV{DEVPATH}=="*/input*::capslock",
ATTR{trigger}="kbd-ctrl11lock"
```

 **NOTE:** This Solution is applicable only for Red Hat Enterprise Linux 7.5.

# Red Hat Enterprise Linux 7 displays incorrect welcome message

- Description:** While installing Red Hat Enterprise Linux 7.x, the incorrect variant is displayed in the welcome message. For example: Welcome to Red Hat Enterprise Linux Client 7.3 (Maipo).
- Applies to:** Red Hat Enterprise Linux 7.0, 7.1, 7.2, 7.3, 7.4, and 7.5
- Cause:** This issue occurs due to incorrect references in the ISO build environment at Red Hat.
- Workaround:** This error message can be ignored because there is no functionality loss.

# Red Hat Enterprise Linux 7.4 displays black screen after iSCSI installation using QLogic QL4xxx cards with out-of-box drivers

- Description:** After successful installation of Red Hat Enterprise Linux 7.4 on iSCSI LUN connected to the QLogic Network (QL4xxx) cards with out-of-box drivers, the system does not login and displays black screen.
- Applies to:** Red Hat Enterprise Linux 7.4
- Cause:** The script `/usr/libexec/iscsi-mark-root-node` does not have `qedi transport` patch.
- Workaround:** Make the following change in the script:

```
>> if [ "$transport" = bnx2i ];
to
>> if [ "$transport" = bnx2i ] || [ "$transport" = qedi ];
```

# Unable to discover iSCSI LUN during Red Hat Enterprise Linux 7 installation with Intel X-550 cards

**Description:** Installation of Red Hat Enterprise Linux 7.3 and 7.4 on an iSCSI LUN through Intel-X550 card fails to automatically discover the iSCSI LUN. This leads to installation failure.

**Applies to:** Red Hat Enterprise Linux 7.3, 7.4, and 7.5

**Cause:** *dracut* has reduced the wait time to run the interface from seven seconds to five seconds for cases where interface shows **UP** but displays **NO-CARRIER**, for two seconds. Missing out these two seconds, leads *dracut* to assume that the interface is not connected, which then leads to failure in LUN discovery.

**Workaround:**

- 1 During the iSCSI installations, in addition to boot parameter `rd.iscsi.ibft=1`, add the following boot parameter: `rd.net.timeout.carrier=7`
- 2 After installation, during boot add the following boot parameter: `rd.net.timeout.carrier=7`

# Unable to shut down Red Hat Enterprise Linux 7 when you select Graceful shutdown option or when you press power button on system

**Description:** When you select the **Graceful shutdown** option from any system management interface such as iDRAC or press the power button, the system goes to suspended state and stops all the tasks or does nothing. So, firmware updates through iDRAC would take longer than expected as iDRAC sends out Graceful shutdown signal but the system does not shut down.

**Applies to:** Red Hat Enterprise Linux 7.0, 7.1, 7.2, 7.3, 7.4, 7.5, and 7.6

**Cause:** By default, the **Power button action** is mapped to the **Suspended** state in the System settings.

**Solution:** Update the **Power button action** manually to perform shut down by one of the following methods:

- Go to **Power settings > Suspend & Power button actions**, and then select **Power off** for "When the Power button is pressed"

or

Run the command: `gnome-tweak-tool`, and then go to **Power settings > Suspend & Power button actions** for "When Power Button is pressed"

- Execute the following commands with root privileges:

```
a gsettings set org.gnome.settings-daemon.plugins.power button-power shutdown
```

or

```
gsettings set org.gnome.settings-daemon.plugins.power power-button-action 'interactive'
```

```
b dconf update
```

- Change the default behavior using the following steps:

- a Create a file using `/etc/dconf/db/local.d/01-power` with the following contents:

```
[org/gnome/settings-daemon/plugins/power]
button-sleep='nothing'
button-suspend='nothing'
```

```
button-hibernate='nothing'  
button-power='shutdown'
```

- b Create a file using `/etc/dconf/db/local.d/locks/01-power` with the following contents:

```
/org/gnome/settings-daemon/plugins/power/button-sleep  
/org/gnome/settings-daemon/plugins/power/button-suspend  
/org/gnome/settings-daemon/plugins/power/button-hibernate  
/org/gnome/settings-daemon/plugins/power/button-power
```

- c Run the command: `dconf update`  
d User must log out and log in again before the system-wide settings take effect.

**NOTE:** The above workaround may not work when the system is locked. GNOME prevents the accidental shutdown when system is locked. As a security precaution, GNOME does not allow any power related actions such as shutdown from any system management interfaces like iDRAC or pressing the power button unless the user is active and logged in OS.

**NOTE:** The preceding steps are not applicable to RHEL 7.4. The workaround for RHEL 7.4 is to install the `acpid` package, and replace `/etc/acpi/actions/power.sh` content with the following content:

```
#!/bin/sh  
  
PATH=/usr/sbin:/usr/bin  
  
shutdown -h now
```

## Installer displays an exception when installing on an iSCSI disk using QLogic QL41000 qedi based drivers

**Description:** A system with QLogic QL41000 qedi based drivers, during the installation of RHEL 7.4 on an iSCSI disk using the qedi transport, installer displays an exception message.

**Applies to:** Red Hat Enterprise Linux 7.4

**Cause:** Boot from iSCSI using the qedi based driver offload function does not work on RHEL 7.4 because the following patches are missing in the qedi driver due to which RHEL-7.4 has no enablement for the card:

- `qed: Inform qedi the number of possible CQs`
- `qed: Correct order of wwnn and wwpn`
- `qed: Share additional information with qedf`
- `qed: Support NVM-image reading API`
- `qedi: Add support for offload iSCSI Boot`

**Workaround:** There is no workaround that is currently available for this issue.

## Progress bar is not displayed while copying a file from USB drive to Desktop

**Description:** When you are copying a file from a USB drive to Desktop, progress bar is not displayed in RHEL 7.4.

**Applies to:** Red Hat Enterprise Linux 7.4

**Cause:** In the GNOME Desktop, Nautilus has a new “per window” notification system. If you copy a file from one window to another window, you will see a progress bar in both the source and destination window. But when you copy or move a file to the desktop, nautilus package transfers the functionality to Nautilus–desktop package which does

not display any progress or status because it does not have any UI operation. If copying or moving a file is not successful, then the failure message is displayed.

**Workaround:** These error messages can be ignored because these are only cosmetic errors.

## Link flap messages are displayed during the device probe for QL41xxx devices

**Description:** On RHEL 7.4 system, link flap messages are displayed in dmesg during device probe for QL41xxx devices. Many link up and link down messages are displayed in the OS log which are not expected.

**Applies to:** Red Hat Enterprise Linux 7.4

**Cause:** The link flap messages are displayed only during driver probe, link settles to `Link UP` at the end and it does not change. The final state of the link is `Link is up`.

**Workaround:** This error message can be ignored because there is no functionality loss.

## ip link/ifconfig displays RX dropped packets for QL41xxx based interfaces

**Description:** On RHEL 7.4 system with QL41xxx devices connected, `ip link -s` or `ifconfig` displays the following dropped packets:

```
ip -s link show dev p1p1
6: p1p1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP mode
DEFAU LT qlen 1000
link/ether 00:0e:1e:f0:fc:9c brd ff:ff:ff:ff:ff:ff
RX: bytes packets errors dropped overrun mcast
31553072 415678 0 162 0 19646
TX: bytes packets errors dropped carrier collsns
7973881196 5395340 0 0 0 0
```

**Applies to:** Red Hat Enterprise Linux 7.4

**Cause:** There is no cause that is currently available for this issue.

**Workaround:** This error message can be ignored because there is no functionality loss.

## dmesg displays debug messages for QL41xxx devices

**Description:** On RHEL 7.4 system with QL41xxx devices connected, following qed driver debug messages are displayed:

```
• [61531.866397] [qed_dbg_dump:6797(p1p1)]Collecting a debug feature
  ["idle_chk"]
• [61531.869558] [qed_dbg_dump:6797(p1p1)]Collecting a debug feature
  ["idle_chk"]
• [61531.872769] [qed_dbg_dump:6797(p1p1)]Collecting a debug feature
  ["reg_fifo"]
• [61531.872789] [qed_dbg_dump:6797(p1p1)]Collecting a debug feature
  ["igu_fifo"]
```

**Applies to:** Red Hat Enterprise Linux 7.4

**Cause:** By default, debug messages are displayed in system log. These messages inform about the progress of the probe.

**Workaround:** This error message can be ignored because there is no functionality loss.

## Drivers available in OEMDRV drive is not installed during the OS installation

**Description:** Sometimes during OS installation, RHEL cannot enumerate the USB drive at the stage of driver disk probing. Because of this, drivers from LC/OEMDRV cannot be installed.

**Applies to:** Red Hat Enterprise Linux 7.4

**Cause:** OEMDRV drive is not detected because the probing of drivers or kickstart in OEMDRV happens so fast that the OEMDRV partition is enumerated after probing is completed. This USB drive enumeration is slow due to race condition between several peripherals to be enumerated.

**Workaround:** Run the kernel boot parameter command `inst.dd=LABEL=OEMDRV`. OS booting will be on hold until the USB is detected.

## Unable to boot to iSCSI after enabling VLAN

**Description:** Red Hat Enterprise Linux 7.2 does not boot to iSCSI after enabling VLAN.

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** Red Hat Enterprise Linux 7.2 is unable to create VLAN interface using `ibft` table.

**Workaround:** To boot to iSCSI, add the command `ip=ibft` to the kernel command line.

## iSCSI interface is not displayed in Anaconda GUI

**Description:** Any iSCSI configured in a network interface is not displayed in the Anaconda GUI, because the Anaconda GUI makes iSCSI NIC a read-only interface.

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** User is not allowed to configure the iSCSI network interface. This is a change in behavior in Red Hat Enterprise Linux 7.3.

**Workaround:** There is no workaround that is currently available for this issue.

## Disabling SRIOV-vfs of Mellanox-ConnectX-4 cards results in terminal hang

**Description:** Kernel oops and terminal hang is observed when SRIOV-vfs of Mellanox-ConnectX-4 card are disabled.

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** The Mlx5 drivers in Red Hat Enterprise Linux 7.3 kernel has basic enablement support for SRIOV in ConnectX-4 cards. Fix requires inclusion of many upstream Mlx5 patches to fix this issue in Red Hat Enterprise Linux 7.3.



**Workaround:** To disable SRIOV vfs in Red Hat Enterprise Linux 7.3, run the following command:

```
# modprobe -r mlx5_ib mlx5_core  
# modprobe mlx5_core
```

 **NOTE:** Disabling SRIOV vfs in this method restarts the physical ports.

## mei\_me displays hardware start failed messages

**Description:** Few error messages are displayed on screen during boot to Red Hat Enterprise Linux 7.3 on Skylake-DT processor platforms.

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** Sunrise Point PCH with SPS Firmware does not expose a working MEI interface which the mei\_me driver is expecting in the chipset.

**Workaround:** These error messages can be ignored because these are only cosmetic errors.

## Intel - Sage Flat - iSCSI LUN is not discovered during Red Hat Enterprise Linux 7 OS installation

**Description:** Installation of Red Hat Enterprise Linux 7.3 on an iSCSI LUN through Intel-X550 card fails to auto-discover the iSCSI LUN. This leads to installation failure.

**Applies to:** Red Hat Enterprise Linux 7.3, 7.4, and 7.5

**Cause:** dracut has mistakenly reduced the wait time to get the interface up from seven seconds to five seconds for cases where interface shows UP but displays NO-CARRIER, for two seconds. Missing out these two seconds, leads to dracut assuming that the interface is not connected leading to failure in LUN discovery.

**Workaround:** Use boot parameter `rd.net.timeout.carrier=7` during installation as well as during boot.

## Watchdog timer function did not work on Red Hat Enterprise Linux 7.2

**Description:** Chipset watchdog timer of Skylake DT processor is not enabled in Red Hat Enterprise Linux 7.2

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** Red Hat Enterprise Linux 7.2 had basic enablement of Skylake DT processor. Missing device-ids are added in Red Hat Enterprise Linux 7.3 which has complete support for Skylake DT processors.

**Workaround:** There is no workaround that is currently available for this issue.

## Recovery is not starting on RAID 01 virtual disk when I/Os are in progress

**Description:** Create RAID 01 multiple disks (MD) array using two drives and add a hot spare to it. Then start I/O stress using diskio tool, and during I/O, unplug one of the drives associated with MD array. Now the hot spare must be

automatically added to the array and recovery or resynchronization must start and it must not be at a speed of 0 KB/sec. But in Red Hat Enterprise Linux 7.3 GA the speed is 0 KB/sec.

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** MD array currently does not ever throttle filesystem I/O to make resynchronization faster, it only throttles resynchronization to make filesystem I/O faster. This results in repeated filesystem I/O requests to block resynchronization indefinitely. Since Diskio performs I/O at high bandwidth md has to wait until I/O is finished. The only reliable way to make resynchronization happen faster is to reduce the filesystem I/O load .

**Workaround:** There is no workaround that is currently available for this issue.

## Red Hat Enterprise Linux 7.3 displays a ACPI warning

**Description:** During boot to Red Hat Enterprise Linux 7.3 GA, the following kernel message is displayed in `/var/log/messages`:

```
localhost kernel: ACPI BIOS Warning (bug):  
FADT (revision 6) is longer than ACPI 5.0 version, truncating  
length 276 to 268
```

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** Red Hat Enterprise Linux 7.3 kernel is still following ACPI-5.0 specification, while BIOS is already moved to ACPI-6 specification. Because of this upgrade in version, FADT table is not recognized by Red Hat Enterprise Linux 7.3 GA OS, which is still following ACPI-5.0 specification.

**Workaround:** There is no workaround that is currently available for this issue.

## Red Hat Enterprise Linux 7.3 displays a mcelog error message

**Description:** After successful installation and boot into Red Hat Enterprise Linux 7.3 GA in UEFI mode, the following error message is displayed in `/var/log/messages`:

```
mcelog: Family 6 Model 9e CPU: only decoding architectural errors
```

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** The error is due to the mcelog package. This package does not support Kabylake processor. This issue will be fixed with the upstream patch.

**Workaround:** There is no workaround that is currently available for this issue.

## IPv6 UEFI PXE installation fails

**Description:** IPv6 UEFI PXE installation fails. The system can get the DHCP address but will not display the boot menu to select an OS but rather drops to the Linux grub prompt.

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** `bootloader.efi is hardlinked grubx64.efi`

Due to hard link grub is not able to load bootloader.efi file and failing to grub shell.

**Workaround:** There is no workaround that is currently available for this issue.

## Intel x520 FCoE first boot fails with kernel crash

**Description:** After installing Red Hat Enterprise Linux 7.2 on FCoE LUN using Intel-X520 Card, the first boot fails with Kernel Crash.

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** The OS fails to select an FCF due to which an FLOGI is not sent. The reason for failure to select an FCF is that FCF selection is getting reset every time an unsolicited multicast advertisement arrives from switch with sub two second interval.

**Workaround:** There is no workaround that is currently available for this issue.

## irqbalance spam messages with banned CPU conflict

**Description:** irqbalance is spamming messages every 10 seconds with snippet below. The HFI driver is setting affinity and the Omni Fabric install is setting `/etc/sysconfig/irqbalance` to use `exact`.

```
IRQBALANCE_ARGS= --hintpolicy=exact
```

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** Irq balancer scans the isolcpus and nohz\_full kernel masks and adds the corresponding CPUs to the banned\_cpus mask. This works fine for valid masks, but not for the default, empty masks. In this case when they read from the sysfs they return empty strings,

```
"\n" or "0x0, \n":
```

**Workaround:** A workaround is to uncomment the following from `/etc/sysconfig/irqbalance`:

```
#IRQBALANCE_BANNED_CPUS=
```

## Coretemp driver adds a limited number of cores

**Description:** On the Dell EMC PowerEdge servers with the Intel Xeon Phi processor 72xx product family installed with Red Hat Enterprise Linux 7.2 (kernel-3.10.0-327.36.1.el7 or later), the coretemp driver fails to add more than 32 cores.

**Applies to:** Red Hat Enterprise Linux 7.2 with kernel-3.10.0-327.36.1.el7 or later versions

**Cause:** The coretemp driver permits reading the Digital Temperature Sensor (DTS) embedded inside Intel CPUs. In kernel-3.10.0-327.36.1.el7, the coretemp drivers support only up to 32 cores. This prevents adding the other remaining cores.

**Workaround:** There is no workaround that is currently available for this issue.

## Turbostat displays incorrect information

**Description:** The Turbostat tool in Red Hat Enterprise Linux 7.2 displays incorrect information regarding the **C-states** and **%Busy** parameters for the Intel Xeon Phi processor 72xx product family.

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** The Turbostat tool in Red Hat Enterprise Linux 7.2 does not have the required fix to support the Intel Xeon Phi processor 72xx product family.

**Workaround:** There is no workaround that is currently available for this issue.

## Ethtool reports a lower port speed

**Description:** On the PowerEdge servers installed with Red Hat Enterprise Linux 7.3, the Mellanox ConnectX-4 100 GbE Ethernet adapter link speed is reported as 40 GbE instead of 100 GbE.

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** The Mlx5 driver does not have the patches that are required to identify the port speed as 100 GbE speed.

**Workaround:** This error message can be ignored because there is no functionality loss.

## Red Hat Enterprise Linux 7.3 displays an error message for drivers

**Description:** After successful installation of Red Hat Enterprise Linux 7.3, the system displays the following driver-related error message in `/var/log/messages`:

```
localhost udisksd[5705]: Error performing housekeeping for drive /org/freedesktop/UDisks2/drives/INTEL_SSDSC2BB120G6R_PHWA62120160120CGN: Error updating SMART data: sk_disk_check_sleep_mode: Input/output error (udisks-error-quark, 0)
```

**Applies to:** Red Hat Enterprise Linux 7.3

**Cause:** When read S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) status commands testing for hard drive success or failure value that includes 8 bits, which are N/A according to the standard but should be zeroes. Some hard drives do not fill them with zeroes, so this error message can be avoided by masking off the undefined bits.

**Workaround:** This error message can be ignored because there is no functionality loss.

## Mellanox ConnectX-4 NIC interfaces are named incorrectly

**Description:** On the Dell EMC PowerEdge servers with Mellanox ConnectX-4 NIC installed with Red Hat Enterprise Linux 7.2, the network interfaces are displayed incorrectly.

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** In ConnectX-4 based devices, each physical port has a dedicated Peripheral Component Interconnect (PCI) function, unlike the ConnectX-3 devices.

ConnectX-4 ports `dev_port` has not been set as each `PCI b/d/f`. The `dev_port` has a dedicated physical port. During the `biosdevname` string check for `mlx`, the value of both `dev_ports` is zero and so the names are displayed incorrectly.

**Workaround:** Disable `biosdevname` by adding the boot parameter "`biosdevname=0`"

This command enables Red Hat Enterprise Linux 7.2 to revert to `systemd` interface naming system.

# Unable to read the Base Address Registers address logged in /var/log/messages

**Description:** Unable to read the Base Address Registers (BAR) address even after successfully installing Red Hat Enterprise Linux 7. The following error message is displayed:

```
BAR 2: failed to assign [mem size 0x00000040]
```

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** The Linux PCIe layer tries to allocate all PCIe BARs in every boot. Home agent devices on Intel E5 - 26xx v4 are not expected to have BAR registers. The home agent devices however return a positive value when queried by kernel.

**Workaround:** This error message can be ignored because there is no functionality loss.

# Unable to detect a degraded S130 volume after the reboot

**Description:** When one of the drives of S130 RAID1 volume fails and the system is rebooted, then the RAID1 volume is not available after reboot.

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** After the S130 volume is degraded, the volume is designed to go to `read-auto` and is marked as inactive during the next reboot.

**Workaround:** Run `mdadm --R /dev/md<number of the drive>` to set the volume to be detected in degraded mode even after a reboot.

# Unable to install Red Hat Enterprise Linux 7 in the 16<sup>th</sup> hard drive slot by using unattended installation

**Description:** Unable to install Red Hat Enterprise Linux 7 in the 16<sup>th</sup> hard drive slot by using unattended installation.

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** The disk slot naming conventions is conflicting with the BIOS drive convention in the system.

**Workaround:** Use a hard drive installed in any other slot on the system to install Red Hat Enterprise Linux 7.

# Red Hat Enterprise Linux 7 displays an error message related to network service in var/log/messages

**Description:** When `idrac-usb-nic` is enabled during the Red Hat Enterprise Linux 7 installation, the system displays an error message related to network service in `var/log/messages`.

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** When `idrac-usb-nic` is enabled during the installation of Red Hat Enterprise Linux 7, the installer creates respective `ifcfg-enp0s20u12u3` files. If you rename the interface to `idrac`, the mapping between `NAME` and `DEVICE` fails.

**Workaround:** Perform any one of the following:

- Enable `idrac-usb-nic` after Red Hat Enterprise Linux 7 installation.
- Manually create the mapping between `NAME` and `DEVICE` in the `ifcfg-enp0s20u12u3` file and restart the network service.
  - In `ifcfg-enp0s20u12u3` file: modify `NAME=idrac`.
  - `#systemctl restart network.service`
- Remove the `ifcfg-enp0s20u12u3` file.

## Unable to assign hot spare in Software RAID configuration when the virtual disk is in use

**Description:** Unable to assign a hot spare disk for the degraded data virtual disk in the Software RAID configuration when the virtual disk is in use and the following error message is displayed:

```
/dev/md1 has failed so using --add cannot work and might destroy
```

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** Source code uses a variable `active_disks` instead of `nr_disks` that counts the spare disks.

**Workaround:** Manually assign the hot spare disk. For more information, see the *S130 User's Guide* at [Dell.com/storagecontrollermanuals](https://www.dell.com/support/manuals)

## ACPI displays warning message when system IO range conflicts

**Description:** The Advanced Configuration and Power Interface (ACPI) displays a warning message, if there is a conflict between the system input/output (IO) and operation address range (OpRange).

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** The latest kernel in Red Hat Enterprise Linux 7.2 with `ACPI_check_resource_conflict()` checks for the entire address range for a particular device. In the watchdog timer and General-purpose input/output (GPIO), the memory address that is mapped by system IO and OpRange is accessed by both ACPI and the operating system.

**Workaround:** This error message can be ignored because there is no functionality loss.

## DWS login fails in Red Hat Enterprise Linux 7.2

**Description:** In OpenManage Server Administrator (OMSA), the distributed web server (DWS) login fails when it tries to log in from another server.

**Applies to:** Red Hat Enterprise Linux 7.2

**Cause:** OMSA uses `openwsman` for web service and `sfc_b` as cim broker, that are connected by using the local socket. SELinux policy does not allow `sfc_b` to write to this socket.

**Workaround:** Add SELinux policy for `sfc_b` to access the local socket.

## Red Hat Enterprise Linux 7.2 displays a warning message in dmesg logs

<b>Description:</b>	In Red Hat Enterprise Linux 7.2, the system displays a warning message in dmesg logs: <code>Your BIOS is broken and requested that x2apic be disabled.</code>
<b>Applies to:</b>	Red Hat Enterprise Linux 7.2
<b>Cause:</b>	By default <code>x2apic</code> is not enabled in BIOS.
<b>Workaround:</b>	This issue can be ignored because there is no functionality loss. Enable <code>x2apic</code> in BIOS.

## Invalid naming conventions for the Intel X710 card when NPAR or NPAR-EP is enabled

<b>Description:</b>	Red Hat Enterprise Linux 7 with Intel X710 card naming conventions by <code>biosdevname</code> may not be accurate for all the networking devices.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.2
<b>Cause:</b>	<code>biosdevname</code> reads the vital product data (VPD) information from the network adapter parallelly, and leads to incorrect interface naming because the VPD does not read the card names accurately.
<b>Workaround:</b>	Add kernel boot parameter <code>biosdevname=0</code> , which makes the system to revert back to <code>systemd</code> naming convention.

## Red Hat Enterprise Linux 7 displays an error message in /var/log/messages

<b>Description:</b>	After restarting Red Hat Enterprise Linux 7, the PCIe devices display an error message in the <code>/var/log/messages</code> log file <code>kernel: pci 0000:01:00.0: can't claim BAR 6 [mem 0xffff80000-0xffffffff pref]: no compatible bridge window.</code>
<b>Applies to:</b>	Red Hat Enterprise Linux 7.2
<b>Cause:</b>	The addresses of the expansion ROM BARs do not contain accurate values.
<b>Workaround:</b>	This error message can be ignored because there is no functionality loss.

## Unable to reboot Red Hat Enterprise Linux 7 after the successful installation on iSCSI or FC or FCoE

<b>Description:</b>	Unable to reboot Red Hat Enterprise Linux 7 after successful installation by using virtual media, on iSCSI or FC or FCoE.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.x
<b>Cause:</b>	Virtual media does not unmount, when the operating system tries to unmount it.
<b>Workaround:</b>	Manually restart by using iDRAC or physically reset the system.

## Red Hat Enterprise Linux 7 displays an unknown netevent message during FCoE boot

<b>Description:</b>	While booting Red Hat Enterprise Linux 7 installed on a FCoE LUN, the system displays a <code>Unknown netevent 5</code> message in the <code>/var/log/messages</code> log file.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	The message is displayed because of missing handlers for network events such as <code>NETDEV_REGISTER</code> , <code>NETDEV_CHANGEADDR</code> , <code>NETDEV_CHANGENAME</code> and <code>NETDEV_PRE_UP</code> .
<b>Workaround:</b>	This error message can be ignored because there is no functionality loss.

## Ethtool offline test for network devices do not restore its previous state

<b>Description:</b>	After performing <code>ethtool</code> offline test for network devices, the devices do not reassign the gateway IP address.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	Not available
<b>Workaround:</b>	Manually run the command <code>#ifdown emX</code> before the test and <code>#ifup emX</code> after the test, to revert the interface to the original state.

## Installation on iSCSI LUN displays few unknown symbol messages

<b>Description:</b>	While installing Red Hat Enterprise Linux 7 on iSCSI LUN, the system displays few <code>Unknown symbol</code> messages in the <code>/var/log/messages</code> log file.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	The message is displayed because of the iSCSI drives are compiled with different versions of header files.
<b>Workaround:</b>	This error message can be ignored because there is no functionality loss.

## NVMe devices are not identified during Red Hat Enterprise Linux installation

<b>Description:</b>	While installing Red Hat Enterprise Linux, the NVMe express devices are listed as <code>Unknown</code> .
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	The installer does not identify vendor and model name for the NVMe devices
<b>Workaround:</b>	This error message can be ignored because there is no functionality loss.



# Unable to restart Red Hat Enterprise Linux 7 after the successful installation on iSCSI LUN

<b>Description:</b>	Unable to restart Red Hat Enterprise Linux 7 after the successful installation on iSCSI LUN, when the iSCSI adapter network settings are set to Static IP.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	During the restart, the system does not recognize the target static IP.
<b>Workaround:</b>	Restart the system by using iSCSI with client IP address to <code>/boot/grub2/grub.cfg</code> .

# Red Hat Enterprise Linux 7 might not boot in the UEFI mode

<b>Description:</b>	After booting Red Hat Enterprise Linux 7 from the hard drive in the UEFI mode, if you enter <code>C</code> to go to the grub command line, and then enter <code>exit</code> , the system automatically restarts and displays the Red Screen of Death (RSOD).
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	Grub2 bootloader exits before the system services complete running.
<b>Workaround:</b>	Press <code>Esc</code> to exit from grub command line.

# Installing Red Hat Enterprise Linux 7 by using the iDRAC Virtual Media does not resume if the iDRAC network is set to the shared LOM mode

<b>Description:</b>	When installing Red Hat Enterprise Linux 7 by using the iDRAC Virtual Media, where the iDRAC network is set to <b>Shared LOM</b> mode, Red Hat Enterprise Linux 7 installer initiates a reset on the LAN on Motherboard (LOM) devices.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	If <b>Spanning Tree</b> is enabled on the switch, there could be a delay in the switch port forwarding network traffic. This delay results in loss of connection to iDRAC or Virtual Media and the installation stops. After sometime the connectivity is restored but the installer but the installation does not resume. This is an expected behavior from the installer.
<b>Workaround:</b>	Disable <b>Spanning Tree Protocol</b> (STP) or set <b>PortFast</b> on the uplink port to the iDRAC, during the Virtual Media installation.

# Kernel panic occurs when OMSA services are started on Red Hat Enterprise Linux 7

<b>Description:</b>	Kernel panic occurs when OpenManage Server Administrator (OMSA) services are started on Red Hat Enterprise Linux 7.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0

**Cause:** The Kernel might spend more time in servicing the kernel timer functions and set a flag to prevent the other code from resetting the timer hardware (APIC timer). Then it programs the timer hardware for a timeout up to 100 ms to run the kernel timer functions. At the next timer hardware interrupt, this flag is cleared. However, there is a bug in the kernel where this flag can be ignored in one specific code path. When this happens, the timer hardware can be set to the wrong timeout value. This incorrect timeout value can be over 10 seconds during this time no kernel timer functions will be run.

**Workaround:** Update the kernel to Z-stream kernel.

## When Virtual Disk is not initialized, Red Hat Enterprise Linux 7 cannot be installed on 4k sector hard drives

**Description:** While installing Red Hat Enterprise Linux 7, on RAID 0 volume created on 4K sector hard drive, it displays the message **setting up the installation environment** and an unknown error.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** Calculating the time required to delete the GUID partition table (GPT) magic number is incorrect for 4k sector hard drives.

**Workaround:** Initialize VD and install the Red Hat Enterprise Linux 7.

## Invalid naming conventions for the ports of Emulex OneConnect OCe14102-UX-D card when NPAR-EP is enabled

**Description:** Red Hat Enterprise Linux 7.0 with Emulex OneConnect OCe14102-UX-D card naming conventions by biosdevname may not be accurate for all the networking devices. As a result partitions 3 and 4 of all the four ports of Emulex is not named as expected.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** Biosdevname has the Limitation, which cannot handle more than 7 PCI functions.

**Workaround:** Add kernel boot parameter "biosdevname=0" this return back to ethN naming.

## Unable to move soft link .desktop file

**Description:** Unable to move soft link .desktop file with `type=link`.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** Unable to deference the source of softlink.

**Workaround:** Use soft link as hard link.

## Unable to boot Red Hat Enterprise Linux 7, when the Execute Disable option is disabled

**Description:** Unable to boot Red Hat Enterprise Linux 7 in the UEFI mode, when the **Execute Disable** option is disabled in the BIOS mode.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** The pagelookup table is marked with NX flag so during the page execution the page fault occurs.

**Workaround:** Do not disable the **Execute Disable** option in BIOS or use default BIOS settings.

## Unable to install Red Hat Enterprise Linux 7 in the UEFI mode

**Description:** During the installation of Red Hat Enterprise Linux 7, the Anaconda installer is unable to create boot entry using `EFIbootmgr`, in the UEFI mode.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** `EFIbootmgr` is unable to create a UEFI boot entry, when boot variables of Hard drive C: (under BIOS) is greater than 1024 bytes. This is a known limitation.

**Workaround:**

- 1 Remove all the bootable devices shown under `Hard Drive C:` (listed in BIOS under F11 option).
- 2 Boot into legacy BIOS, and change the boot setting to UEFI mode.
- 3 Reboot the server, re insert the devices that we removed under `Hard Drive C:` and reinstall.

## While adding second slave to bond, it asks for connection type and shows additional connection types

**Description:** To create the bonding interference between the master and the slave, slave asks for connection type and displays additional connection types.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** Network manager does not filter the type of connection required for the slave.

**Workaround:** This issue can be ignored because there is no functionality loss.

## Loopback device is displayed as unknown in network settings

**Description:** Network setting of local host displayed as unknown for loopback interface.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** Network manager does not manage the loopback interface.

**Workaround:** This issue can be ignored because there is no functionality loss.

## Kernel panic on reboot or shutdown when Mellanox Team is setup

**Description:** Rebooting the system results in kernel panic, when the system has a bonding device with Mellanox ConnectX-3 devices as slaves.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** Kernel panic occurs when Mlx4\_ib driver accesses the slave data structure that is already freed during the restart.

**Workaround:** Ensure that Mlx4\_ib driver is unloaded before reboot.

## PCIeSSDs report incorrect pciehp messages during boot

**Description:** During Red Hat Enterprise Linux 7 bootup, pciehp related messages are displayed even when there are no hotplug activity: `pciehp 0000:82:05.0:pcie24: Device 0000:84:00.0 already exists at.`

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** While booting kernel attempts to add a preexisting device prior moving to the suspend state.

**Workaround:** This error message can be ignored because there is no functionality loss.

## VMM does not displays Windows Server 2012 in drop-down list

**Description:** Virtual Machine Manager (VMM) does not display Windows Server 2012 in the drop-down list of a new Virtual Machine window.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** There is no entry created for Windows Server 2012 in the VMM.

**Workaround:** There is no functionality loss. You can install Windows Server 2012 after selecting any generic windows item from the drop-down list.

## Ethtool link test fails in Offline mode despite the cable being connected to the port

**Description:** Ethtool link test fails in Offline mode despite the cable being connected to the port.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** A PHY link require five seconds to enable the link.

**Workaround:** This error message can be ignored because there is no functionality loss.

## PXE boot fails with a system crash when Red Hat Enterprise Linux 7 is installed on local storage and the tftp server has an invalid boot EFI file

**Description:** When Red Hat Enterprise Linux 7.0 is installed on local storage and we try to boot through **PXE** in **UEFI** mode, where the PXE setup has an invalid boot **EFI** file in **tftp** server, it is expected to boot from Red Hat Enterprise Linux 7.0 on local storage, however it fails with Red Screen of Death (RSOD).

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:**

- 1 **shim** must load the grub from where the shim is loaded, currently there is no check for this.

- 2 RSOD occurs since there is no check against the pointer in the unhook system services, which is responsible for loading the image.

**Workaround:** Ensure that the valid boot **EFI** file is configured in the **tftp** server.

## NVMe driver reports I/O error on Surprise Removal or Surprise Insertion

**Description:** NVMe driver reports multiple buffer I/O errors on surprise removal and surprise insertion of a NVMe device and the following error message is displayed `Buffer I/O error on device nvme0n1, logical block 0.`

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** Surprise Removal Surprise Insertion (SRSI) feature is not supported.

**Workaround:** This error message can be ignored because there is no functionality loss.

## Reading EEPROM from a Broadcom device via ethtool results in soft lockup

**Description:** With Broadcom network adapters, reading EEPROM via `ethtool -e<interface name>` results in CPU soft lock, when cable is not connected to the port.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** When cable is not connected, the clock speed of the device becomes slow, based on the power saving mode setting defined in NVRAM. Due to this, EEPROM reads take a long time to complete and results in CPU soft lockup.

**Workaround:** Ensure that cable is connected to the specific port before reading EEPROM on that port.

## Error during the first boot on iSCSI disk

**Description:** When Red Hat Enterprise Linux 7.0 is installed on iSCSI disk from Broadcom 10G network adapter, `dmesg` shows the following error message:

- `Failed to empty BRB.`
- `Storm stats were not updated for three times.`
- `Driver assert.`
- `Begin crash/panic dump.`

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** BRB is not cleared by the **bnx2x** driver during the iSCSI boot that was previously used by the **UNDI** driver.

**Workaround:** Reboot the system.

# Enabling SR-IOV virtual functions on both Intel and Mellanox cards result in invalid naming conventions for the network devices

<b>Description:</b>	While rebooting, the naming conventions by <code>biosdevname</code> may not be accurate for all the networking devices, when SR-IOV virtual functions are enabled by <code>systemd</code> on both Intel and Mellanox devices at the same time.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	The <code>mlx4_core</code> driver consumes more time for the probe of all the VFs, which results in termination of <code>biosdevname</code> .
<b>Workaround:</b>	Enable SR-IOV on Intel using the <code>sysfs</code> method.

# Mellanox card does not display supported link modes as 40G

<b>Description:</b>	The Mellanox 40G Network card does not display the supported link modes as 40G. Instead, it is displayed as 10G.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	The Mellanox driver does not set the 40 GB bits in advertised and supported links.
<b>Workaround:</b>	This issue can be ignored because there is no functionality loss.

# Unable to install Red Hat Enterprise Linux 7 on a drive with an existing btrfs partition

<b>Description:</b>	During Red Hat Enterprise Linux 7 installation after selecting a drive with existing <code>btrfs</code> file system, the Anaconda installer is not able to delete the <code>btrfs</code> partitions.
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0
<b>Cause:</b>	The Anaconda installer is not able to delete the sub volumes of <code>btrfs</code> file systems.
<b>Workaround:</b>	Ensure that there are no existing <code>btrfs</code> partitions on the drive.

# syslog displays error Related to network.service

<b>Description:</b>	<code>syslog</code> displays the following error messages indicating that <code>network.service</code> has failed: <ul style="list-style-type: none"><li>· Failed to activate 'em1': Connection 'em1' is not available on the device em1 at this time.</li><li>· Connection activation failed: Connection 'em1' is not available on the device em1 at this time.</li><li>· Failed to start LSB: Bring up/down networking.</li><li>· Unit <code>network.service</code> entered failed state.</li></ul>
<b>Applies to:</b>	Red Hat Enterprise Linux 7.0

**Cause:** In the `network.service` script, `nmccli` cannot get the network interface state information for the first time. The retry is successful.

**Workaround:** This error can be ignored as there is no functionality loss.

## Unable to move the OpenManage Server Administrator icon anywhere on the desktop

**Description:** Unable to move the OpenManage Server Administrator icon anywhere on the desktop. `Error while copying message` is displayed.

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** Hard linked `.desktop` files do not have source files information populated appropriately.

**Workaround:** This issue can be ignored because there is no functionality loss.

## ras-mc-ctl command displays DIMM labels related error message

**Description:** When you run the command `ras-mc-ctl --print-labels`, the system displays the error `No dimm labels for Dell Inc.`

**Applies to:** Red Hat Enterprise Linux 7.0

**Cause:** `rasdaemon` is unable to get the **DIMMs** details from the SQLite database. Also, `rasdaemon` cannot guess the DIMMs label using the `dmidecode` for the new memory controllers.

**Workaround:** This error message can be ignored because there is no functionality loss.

## Getting help

Topics:

- [Contacting Dell EMC](#)
- [Related documentation for Linux](#)
- [Documentation resources](#)
- [Download the drivers and firmware](#)
- [Documentation feedback](#)

## Contacting Dell EMC

Dell EMC provides several online and telephone-based support and service options. Availability varies by country, region, and product, and some services may not be available in your area.

To contact Dell EMC for sales, technical assistance, or customer service issues, see <https://www.dell.com/contactdell>.

If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or the product catalog.

## Related documentation for Linux

**NOTE:** For information on deploying Red Hat Enterprise Virtualization, see the product documentation available at [docs.redhat.com](https://docs.redhat.com).

Product documentation from Dell EMC includes:

- [Installation Instructions and Important Information Guide](#)
- [Release Notes](#)

**NOTE:** For more information on Dell EMC PowerEdge servers compatibility with supported operating systems, see [Dell.com/ossupport](https://www.dell.com/ossupport).

**NOTE:** For more information on Dell EMC PowerEdge servers compatibility with supported operating systems on Dell EMC TechCenter, see [Linux OS Support on Dell EMC PowerEdge Servers](#).

## Linux videos on Dell EMC PowerEdge servers

To view the videos related to supported operating systems for Dell EMC PowerEdge servers, go to [Supported Operating Systems for Dell EMC PowerEdge Systems](#).

**Table 2. Linux videos on Dell EMC PowerEdge servers**

Video title	Links
OS Deployment - Installing and configuring Red Hat Enterprise Linux 7 by using PXE install method	<a href="https://www.youtube.com/watch?v=EIDLxsfctlo">https://www.youtube.com/watch?v=EIDLxsfctlo</a>
Unattended OS Installation, BIOS Mode	<a href="https://www.youtube.com/watch?v=iYunu3TIXik">https://www.youtube.com/watch?v=iYunu3TIXik</a>



**Video title****Links**

Unattended OS Installation, UEFI Mode

<https://www.youtube.com/watch?v=G2ORV1Rt5VU>

## Documentation resources

This section provides information about the documentation resources for your server.


**Table 3. Additional documentation resources for your server**

<b>Task</b>	<b>Document</b>	<b>Location</b>
Setting up your server	For information about installing the server into a rack, see the Rack documentation included with your rack solution Or the <i>Getting Started With Your System</i> document that is shipped with your server.	<b>Dell.com/poweredgemanuals</b>
	For information about turning on the server and the technical specifications of your server, see the <i>Getting Started With Your System</i> document that is shipped with your server.	<b>Dell.com/poweredgemanuals</b>
Configuring your server	For information about the iDRAC features, configuring and logging in to iDRAC, and managing your server remotely, see the Integrated Dell Remote Access Controller User's Guide.	<b>Dell.com/idracmanuals</b>
	For information about installing the operating system, see the operating system documentation.	<b>Dell.com/operatingsystemmanuals</b>
	For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the RACADM Command Line Reference Guide for iDRAC.	<b>Dell.com/idracmanuals</b>
	For information about updating drivers and firmware, see “Downloading the drivers and firmware” topic in this document.	<b>Dell.com/support/drivers</b>
Managing your server	For information about servers management software offered by Dell EMC, see the Dell EMC OpenManage Systems Management Overview Guide.	<b>Dell.com/openmanagemanuals</b>
	For information about setting up, using, and troubleshooting OpenManage, see the Dell EMC	<b>Dell.com/openmanagemanuals</b>

Task	Document	Location
	OpenManage Server Administrator User's Guide.	
	For information about installing, using, and troubleshooting Dell EMC OpenManage Essentials, see the Dell EMC OpenManage Essentials User's Guide.	<b>Dell.com/openmanagemanuals</b>
	For information about installing and using Dell SupportAssist, see the Dell EMC SupportAssist Enterprise User's Guide.	<b>Dell.com/serviceabilitytools</b>
	For understanding the features of Dell EMC Lifecycle Controller (LC), see the Lifecycle Controller User's Guide.	<b>Dell.com/idracmanuals</b>
	For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.	<b>Dell.com/omconnectionsenterprisesystemsmanagement</b>
	For information about viewing inventory, performing configuration, and monitoring tasks, remotely turning on or off servers, and enabling alerts for events on servers and components using the Dell EMC Chassis Management Controller (CMC), see the CMC User's Guide.	<b>Dell.com/esmanuals</b>
Working with the Dell EMC PowerEdge RAID controllers	For information about understanding the features of the Dell EMC PowerEdge RAID controllers (PERC) and deploying the PERC cards, see the Storage controller documentation.	<b>Dell.com/storagecontrollermanuals</b>
Understanding event and error messages	For information about checking the event and error messages generated by the system firmware and agents that monitor server components, see the Dell EMC Event and Error Messages Reference Guide.	<b>Dell.com/openmanagemanuals &gt; OpenManage software</b>
Troubleshooting your system	For information about identifying and troubleshooting the PowerEdge server issues, see the Server Troubleshooting Guide.	<b>Dell.com/poweredgemanuals</b>

# Download the drivers and firmware

It is recommended that you download and install the latest BIOS, drivers, and systems management firmware on your system. Ensure that you clear the web browser cache before downloading the drivers and firmware.

- 1 Go to [Dell.com/support/drivers](https://Dell.com/support/drivers).
- 2 In the **Drivers & Downloads** section, enter the Service Tag of your system in the **Enter a Dell Service Tag, Dell EMC Product ID, or Model** field, and then click **Submit**.  
  
 **NOTE:** If you do not have the Service Tag, click **Detect PC** to allow the system to automatically detect your Service Tag.
- 3 Click **Drivers & Downloads**.  
A list of applicable downloads is displayed.
- 4 Download the drivers or firmware to a USB drive, CD, or DVD.

# Documentation feedback

You can rate the documentation or write your feedback on any of our Dell EMC documentation pages and click **Send Feedback** to send your feedback.