Dell PowerEdge Systems SUSE Linux Enterprise Server 10

Installation Instructions And Important Information

Notes, cautions, and warnings

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

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.

Contents

Installation Instructions And Important Information

Overview

This document provides the following information:

- Instructions for installing and re-installing the operating system on your Dell system.
- Sources of additional information.

Latest Available Operating System

SUSE Linux Enterprise Server 10 SP 4 is the currently shipping version of the operating system.

System Configuration Requirements

Supported Architecture

Dell supports the x86_64 version of SUSE Linux Enterprise Server 10 on all 9G, 10G, 11G and 12G Dell PowerEdge systems. To check if your PowerEdge system supports SUSE Linux Enterprise Server 10, see the support matrix at **dell.com/ossupport**.

> **NOTE:** If you require the x86 version of the operating system, it is recommended that you run it as a virtual machine on SUSE Linux Enterprise Server 10 x86_64 or an equivalent host. See **suse.com/documentation** for information on how to install a SUSE Linux Enterprise Server 10 virtualized guest.

Reviewing Pre-Configuration Options

This section describes the packages and options installed or pre-configured by Dell for SUSE Linux Enterprise Server 10.

Operating System Packages Pre-Installed By Dell

Dell has pre-installed a set of operating system packages on your system that provide the features required by system users. If you require additional functionality not provided by the pre-installed packages, install the additional packages from the SUSE Linux Enterprise installation media or through SUSE Linux Enterprise network.

Languages

Your system is pre-installed with the SUSE Linux Enterprise operating system for the following languages:

- English
- French
- German
- Korean

- Spanish
- Japanese
- Simplified Chinese

Installing And Re-Installing Your Operating System

Use the following modes to install and re-install your operating system:

- *Dell Systems Management Tools and Documentation* media
- *Dell Systems Build and Update Utility* media
- *SUSE Linux Installation* media
- Unified Server Configurator

Using The Dell Systems Management Tools And Documentation Media

⚠ **CAUTION: Backup all data from the system before installing or upgrading the operating system.**

It is recommended that you use the *Dell Systems Management Tools and Documentation* media to install and re-install SUSE Linux Enterprise Server 10.

The *Dell Systems Management Tools and Documentation* media provides the following benefits:

- Automates the installation process.
- Restores the pre-installed settings for the RPM modules and the partition scheme.
- Installs additional software and drivers specific to Dell PowerEdge systems that are not included in the SUSE Linux Enterprise media.

✎ NOTE: Before you install the operating system using the *Dell Systems Management Tools and Documentation media*, disconnect all the USB storage devices that are connected to your system.

Insert the *Dell Systems Management Tools and Documentation* media into your optical drive and reboot your system. Follow the directions on the screen and the instructions in the documentation that shipped with your media.

✎ NOTE: The *Dell Systems Management Tools and Documentation* media automatically installs drivers and any Dell-specific updates not included with the SUSE Linux Enterprise media. Save your media in case you need to re-install the SUSE Linux Enterprise operating system.

Using The Dell Systems Build And Update Utility Media

The *Dell Systems Build and Update Utility* media provides the following installation benefits:

- Automates the installation process.
- Restores the pre-installed settings including the RPM modules and the partition scheme, for a pre-installed operating system.
- Allows the operating system to deliver additional software or customization specific to Dell PowerEdge systems, including the correct device drivers for detected hardware components.

Insert the *Dell Systems Build and Update Utility* media into your CD/DVD drive and reboot your system. Follow the directions on the screen and the instructions in the documentation that came with the media.

Using The SUSE Linux Installation Media

✎ **NOTE:** If you want to perform a custom installation using the SUSE Linux installation media, you may need to perform additional manual modifications or install additional packages not located on the SUSE Linux installation media.

✎ **NOTE:** For consistent mounting of storage partitions, it is recommended that you place the file system labels on all file systems, and mount the file systems according to the file system labels. This process provides a persistent file system naming and identification. The booting process is successful even as you add or remove storage from the system.

Add the file system labels when you are installing the operating system:

1. Select **Create custom partition setup** in the partitioning tool.
2. Select **Custom partitioning – for experts**. The **Expert Partitioner** window is displayed.
3. Select **Create** and configure your partition.
4. Select **Fstab Options**.
5. Select the **Volume Label** option in **Mount** in **/etc/fstab by**, and then specify a volume label when prompted.
6. Repeat step 1 to step 5 for all the partitions.

To perform a custom installation using the SUSE Linux installation media, follow these steps:

1. Insert the SUSE Linux installation media into your CD/DVD drive and reboot the system.
   After the system boots to the installation media, an installation option menu and six installation configuration choices are displayed at the bottom of the screen.
2. Choose an installation configuration and select **Installation** from the main menu.
   The **SUSE Linux Yet Another Startup Tool (YaST)** installer loads.
3. Review the notes on the left side of the screen as you proceed through the installation choices.

For more information, see the operating system manuals in the **/docu** directory on the SUSE Linux installation media.

Storage Partitions

The following table lists the pre-installed SUSE Linux Enterprise server partitions and mount points for the primary hard drive.

Mount Point	Size (MB)	Partition Type	Volume Group
Utility Partition	32	FAT 32	N/A
/	4096	Linux Logical Volume Manager (LVM)	VolGroup00
/boot	200	Linux native	N/A
Swap	2048	Linux swap	VolGroup00
/usr	8192	Linux LVM	VolGroup00

Mount Point	Size (MB)	Partition Type	Volume Group
/tmp	3072	Linux LVM	VolGroup00
/var	3072	Linux LVM	VolGroup00
/home	8192	Linux LVM	VolGroup00
/opt	4096	Linux LVM	VolGroup00

NOTE: The size of the default LVM Logical Volumes (LV) partitions (such as **/usr, /tmp,** and so on) are based on a single 36 GB hard drive. If you have a larger hard drive or multiple hard drives, use the various native LVM tools to resize the existing partitions as well as to create new partitions, per your requirements.

Installing Your Operating System On Devices That Support Multipathing

CAUTION: Backup all data from the system before installing or upgrading the operating system.

1. Configure storage for your system to enable multipathing.

   To configure the storage, see the specific Dell PowerVault system documentation at **support.dell.com/manuals**.
2. After the storage array is set up, follow the prerequisite steps for using multipath devices from the *PowerVault MD3200 Owners Manual* at **support.dell.com/manuals.**
3. During the operating system installation, select **Specialized Storage Devices** in the **Storage Devices** screen.
4. Click **Next**.
5. In the **Storage Device Selection** screen, click the **Multipath Devices** tab.
6. Select the multipath device shown on this screen and continue with the installation.

Installing Your Operating System On iSCSI Storage

CAUTION: Backup all data from the system before installing or upgrading the operating system.

SUSE Linux Enterprise Server 10-based systems can connect to an iSCSI storage array either through the iSCSI software stack, an iSCSI Host Bus Adapter (HBA), or an iSCSI offload hardware.

At present, you cannot install SUSE Linux Enterprise Server 10 through an iSCSI offload hardware. You can install SUSE Linux Enterprise Server 10 either through the iSCSI software stack (referred to as software initiator) or the iSCSI HBA (referred to as hardware initiator).

Using The Dell Unified Server Configurator

NOTE: Dell Unified Server Configurator (USC) provides an OS Deployment wizard that assists you with the installation of SUSE Linux Enterprise Server 10.

NOTE: Unified Server Configurator—Lifecycle Controller Enabled (USC-LCE), is shipped with embedded drivers that are factory installed. It is recommended that you run the Platform Update Wizard to ensure that you have the latest drivers before you begin installing the operating system. You can download the latest drivers from **ftp.dell.com**, or use the *Dell Systems Management Tools and Documentation* media. For more information, see *Dell Unified Server Configurator - Lifecycle Controller Enabled User Guide* at **support.dell.com/manuals**.

To begin installation using the **OS Deployment wizard** :

1. Boot the system and press <F10> within 10 seconds of the Dell Logo being displayed.
2. Click **OS Deployment** in the left pane.
3. Click **Deploy OS** in the right pane.

   NOTE: If your system has a RAID controller, you must configure RAID before you continue with the installation of drivers. For more information, see the *Dell Unified Server Configurator - Lifecycle Controller Enabled User Guide* at **support.dell.com/manuals.**

4. From the list of operating systems, select **SUSE Linux Enterprise Server 10 64-bit** and click **Next**.

   USC or USE-LCE extracts the required drivers to an internal USB drive named **OEMDRV** under **/linux/ suse/x86_64-sles10/install/*.rpm**.

   After the drivers are extracted, USC or USC-LCE prompts you to insert the operating system installation media.

5. Insert the SUSE Linux Enterprise Server 10 media, and then click **Next**.
6. Click **Finish** to reboot the system and continue with the operating system installation by booting to the operating system media

   NOTE: After rebooting, the system prompts you to press a key to boot to the operating system media. If you do not press a key, the system boots to the hard drive.

It is recommended that you update your system with the drivers extracted in step 4, after the operating system installation is complete.

The extracted drivers are located under the **OEMDRV** drive at: **/linux/suse/x86_64-sles10/install**.

   NOTE: All the copied drivers are removed after 18 hours. You must complete the operating system installation within 18 hours. To remove the drivers before 18 hours, reboot the system, press <F10> and re-enter USC.

   Use the following command to install the drivers: **rpm -UvH *rpm**

Post Installation Tasks

This section contains information regarding post installation tasks.

Obtaining The DKMS Framework For Device Drivers

Dell device driver packages not available on the SUSE Linux installation media use the dynamic kernel module support (DKMS) framework. This framework allows the kernel modules to be dynamically built for each kernel on your system and provides a mechanism for driver version control. You can download the DKMS framework and the latest Dell device drivers from **support.dell.com**.

Updating Your System Packages

SUSE periodically releases software updates to fix bugs, address security issues, and add new features. You can download these updates from **suse.com/support**. It is recommended that you update your system software to the latest revisions before you deploy your system.

To download and install package updates automatically, see the *SUSE Linux Enterprise Server Deployment Guide*.

Configuring Your System Settings

Use **YaST**, to configure your system after the installation, including hardware, software, and services.
To start **YaST** from:

- The text console, type **yast** at the command prompt.
- The X Window system, type **yast2** in an X Terminal window.
- The K desktop environment (KDE), select **System → YaST**.

Important Information

> **NOTE:** Dell OpenManage components are supported only on SUSE Linux Enterprise Server 10 SP 3. The latest service pack SUSE Linux Enterprise Server 10 SP 4 provides a fix for certain issues found in the previous releases.

Issues And Resolutions

This section contains information about general issues, resolutions, and their workarounds applicable to all the service pack versions of SUSE Linux Enterprise Server 10.

IPMI Commands Result In High CPU Utilization

Description	On Dell PowerEdge systems managed through IPMI, the IPMI commands issued to the BMC can result in the **kipmid** thread consuming high CPU time.
Workaround	To address this, add the driver option – **kipmid_max_busy_us** to the **ipmi_si** driver module.
	Set the option by creating a file **/etc/modprobe.d/ipmi.conf** with the following line and reloading the **ipmi_si** module:
	`options ipmi_si kipmid_max_busy_us=300`

lspci Reports Unknown Devices

Description	When **lspci** is used to display information about all the PCI buses in the system and all the devices connected to them, the output may contain a few unknown devices.
Workaround	Use one of the following methods:
	• Download the latest **pci.ids** file from **pciids.sourceforge.net/pci.ids** and save it at **/usr/share/pci.ids**.
	• Use the **update-pciids** utility to download the latest **pci.ids** file.
Cause	The issue occurs when the **pci.ids** file does not contain the definition of the latest hardware.

X Window System Does Not Start After Adding New Hardware

Description   After adding new hardware on Dell systems, that have SUSE Linux Enterprise Server 10 installed, the X Window system may fail to start.

Workaround   Run **sax2 -r** on a command line to reconfigure your graphics settings. Alternatively, remove the Bus ID line from the **/etc/X11/xorg.conf** file.

Cause   The **/etc/X11/xorg.conf** file has a static entry for the Bus ID of the video controller. Adding new hardware reorders the PCI bus. This makes the Bus ID in the **xorg.conf** file incorrect.

Loading The mptctl Module For SAS Controllers

Description   To use a Dell management software application to manage a Dell Serial Attached SCSI (SAS) 5 controller, load the **mptctl** module to provide a kernel interface for the software.

You can load the **mptctl** module by typing **modprobe mptctl** at the command prompt.

Workaround   You can configure your system to automatically load the **mptctl** module on every boot by completing the following steps:

1. Log in as the root user.
2. Open the **/etc/sysconfig/kernel** file in a Linux text editor.
3. Find the line that starts with `INITRD_MODULES=`, and add `mptctl` on the line after `mptsas`.
4. Save the file and run **mkinitrd** on a command line.

Installing SUSE Linux Enterprise Server 10 On A SAS 5/iR Or SAS 6/iR Controller

Description   The operating system may not boot when SUSE Linux Enterprise Server 10 is installed on a system that has a SAS 5/iR or SAS 6/iR controller with more than two hard drives connected.

Workaround   To avoid this issue, perform the following procedure during the operating system installation:

1. Insert the SUSE Linux installation media and proceed through the installation screens to the **Installation Settings** window.
2. Select the **Expert** tab, and then select **Booting**. The **Boot Loader Settings** window is displayed.
3. Select the **Boot Loader Installation** tab and then select **Boot Loader Installation Details**.
4. In the **Disk Order** window, change the order to make **/dev/sdb** the first disk, **/dev/sdc** the second (if present), and **/dev/sda** the last disk.
5. Click **OK**, and then click **Finish** to return to the **Installation Settings** window.

Continue with the SUSE Linux Enterprise Server 10 installation.

Cause This issue occurs because of one of the following reasons:

- The hard drives are configured with more than one redundant array of independent disks (RAID).
- One RAID volume along with one or two individual disks are connected to the controller.

In these scenarios, the SUSE Linux Enterprise Server 10 installer, installs the Grand Unified Bootloader (GRUB) to the incorrect hard drive.

USB Memory Key Partition Does Not Auto Mount In The X Window System

Description If a USB memory key is attached to your system during the operating system installation, the installer places an entry in **/etc/fstab** for your USB key. After the operating system installation, the X Window system may not automatically mount the storage partition on the USB key (after the key is removed and plugged in again).

Workaround To enable a quick automount of the key, remove the corresponding **/etc/fstab** entry for the USB key.

To mount the device, type **mount -a** on the command line, or use the **HALMount** command line utility.

Issues Fixed In SUSE Linux Enterprise Server 10 SP 4

This section contains information about general issues, resolutions, and their workarounds when using SUSE Linux Enterprise Server 10 SP 4 on your Dell system.

Kernel Panic When The Bonding Module Is Unloaded

Description If a bonding device in **balance alb/tlb** mode is brought down with the command **ifconfig bond0 down** and the slave systems are still attached to the bond, the bond's transmit hash table gets cleared.

Workaround Detach the slave systems before unloading the module.

Cause When the bonding module is unloaded, the transmit hash table which is cleared by the above step, is accessed and this results in a kernel panic.

Unable To Install SUSE Linux Enterprise Server 10 SP 3 When Size Of The Virtual Disk Is Greater Than 1.4 TB

Description The installation of SUSE Linux Enterprise Server 10 SP 3 fails when the size of the virtual disk is greater than 1.4 TB.

Cause This issue occurs due to a bug in the GRUB source code.

SUSE Linux Enterprise Server 10 SP 3 64-bit Installation Fails On 128 GB System Memory

Description	If the memory size of the system is between 96 GB and 128 GB, the system may fail to boot to SUSE Linux Enterprise Server 10 SP 3 either from the media or in the Preboot Execution Environment (PXE).
Cause	This issue occurs because the Linux kernel fails to allocate 64 GB of bounce buffer in the 4 GB RAM space. The 0–2 GB of the 4 GB RAM space, which is reserved for link list, gets relocated on the 4 GB RAM space.

Installation Of SUSE Linux Enterprise Server 10 SP 3 Operating System Fails

Description	Installation of SUSE Linux Enterprise Server 10 SP 3 operating system may fail.
Cause	The issue occurs when the installation is initiated from a hard disk on a system with an unpartitioned USB device.

SUSE Linux Enterprise Server 10 SP 3 Becomes Unresponsive Handling iSCSI Asynchronous Logouts

Description	While handling an iSCSI asynchronous logout request from a Dell EqualLogic PS5000 series array, SUSE Linux Enterprise Server 10 SP 3 may become unresponsive in trying to access the server over the network.
Workaround	For more information, see TID *7005016* at **suse.com/support**.

Known Issues In SUSE Linux Enterprise Server 10 SP 4

This section contains information about known issues, resolutions, and their workarounds when using SUSE Linux Enterprise Server 10 SP 4 on your Dell system.

SUSE Linux Enterprise Server 10 SP 4 Becomes Unresponsive During System Boot When kdump Is Enabled

Description	If the memory on a server exceeds 768 GB, then while booting, the server is unresponsive and displays the message: `loading kdump`.
Cause	This is because **bootmem map** overlaps the crash kernel reserved area. NOTE: If kdump is disabled, the system boot is not impacted. This issue will be fixed in the next release of maintenance kernel for SLES 10 SP 4 from SUSE.

LPe12000/2 Drivers Fail To Install Under SUSE Linux Enterprise Server 10 SP 4

Description	Driver build/installation fails for devices LPe12000 and LPe12002 while using DKMS version 2.2.0.1-1 in SUSE Linux Enterprise Server 10 SP 4 Operating System. You may see a part or all of the following sample error message:

```
Unable to load DKMS tarball/usr/share/be2iscsi/be2iscsi-
<ver>.tar.gzerror: %post(be2iscsi-4.0.323.0-1dkms.x86-64)
scriptlet failed, exit status 2
You must be using DKMS 2.1.0.0 or later to support binaries
only distribution specific archives
corrupt distribution specific archive
```

Workaround	Use dkms 2.0.x.
Cause	Incompatible syntax in **spec** and **makefile** causes the dkms 2.2.x version installation to fail.

Installation Of SUSE Linux Enterprise Server 10 SP 4 Fails With ACPI Exception

Description	The boot process of the installation on your system stops with the following message:

```
"ACPI Exception (utmutex-0257): AE_TIME, Thread 0 could not
acquire Mutex [8] [20060127]"
```

Workaround	Abort the installation and retry. After the installation is complete, update your operating system to the latest maintenance kernel (version 2.6.16.60-0.91.1 or higher), which includes a fix for this behavior. For more information, see TID *7009309* at **suse.com/support**.

> **NOTE:** The kernel/boot failure happens once in five attempts.

> **NOTE:** The issue may occur frequently if you are performing the installation through SBUU.

Error Message On Starting IPMI Drivers While Installing OMSA

Description	On starting IPMI service on Dell PowerEdge R620, T620, M620, R720, and R720xd systems, the system log displays the following message:

```
Could not enable interrupts, failed set, using polled mode.
```

Although the message indicates the operating system is in the polling mode, the Linux driver continues to work in the interrupt mode.

Workaround	This is working as designed. This will be addressed in a later version of the iDRAC firmware.

Assigning iSCSI LUN Target To Intel Niantic Stops The Operating System Booting

Description	When attempting to install the operating system on iSCSI Logical Unit Numbers (LUN) with the Intel 10G network controller card(Intel card X520 and Intel Ethernet X520-DA2 Server Adapter), the system stops responding at the boot screen (after POST).
Workaround	Disable the local storage controller from the BIOS menu and then proceed with the iSCSI based installation.
Cause	This error occurs because the BIOS 0xE820 code does not return the first 0xe820 entry to match int 12 interface and hence does not comply with ACPI specification.

Systems With Intel Multiport i350 rNDC And PCI Add-in Adapters Report Incorrect/Duplicate Mac Address

Description	Native **igb** driver reports incorrect MAC ids for interfaces of multiport i350 rNDC and PCI add-in adapters.
Workaround	This issue is addressed in the latest version of Dell **igb** driver. Use the latest driver disk from **support.dell.com** during installation to address this issue. **During Installation** During installation, load the Dell **dkms** drivers on to a USB drive in the form of a driver disk. The YaST installer uses these drivers and updates the original drivers. **During Upgrade** Network configuration files are created using the original drivers during installation. Due to this, the configuration files retain the faulty MAC address. Delete all the configuration files present in the scripts directory **/etc/sysconfig/network-scripts/ifcfg-***, and restart the server. Alternatively, use SBUU or Lifecycle controller for installation.

Additional Scenario

When the user installs the latest driver from **support.dell.com**, the igb module will be placed in the **/lib/modules/<kernel version>/extra/** directory. If the user upgrades to SLES 10 SP4 errata kernel, a symbolic link will be created from the **weak-updates** of the errata kernel to the **extra** directory of the SLES 10 SP4 kernel.
The **weak-updates** modules have lower preference than the built-in modules for the errata kernel as defined in the file **/etc/depmod.d/depmod.conf.dist**. As a result, when the system boots into the errata kernel the built-in module will be loaded instead of the **Dell dkms** module, causing the issue to re-appear, if the built-in module of the errata kernel has the issue. This can be prevented by overriding the default module load search preference for the igb module by the following procedure, before booting into the errata kernel.

1. Create a file **igb.conf** with the following content under the directory **/etc/depmod.d**.

    ```
    override igb <errata kernel version>  weak-updates.
    ```
2. Run **depmod -a** .

Issues Fixed In SUSE Linux Enterprise Server 10 SP 3

This section contains information about general issues, resolutions, and their workarounds when using SUSE Linux Enterprise Server 10 SP 3 on your Dell system.

SATA DVD ROM Not Detected On Dell PowerEdge Systems

Description	The onboard SATA DVD ROMs are not detected on Dell PowerEdge systems with Broadcom HT1100 chipsets.
Workaround	Download the latest **sata_svw dkms** driver from **support.dell.com**.
Cause	The native **sata_svw** driver does not support the HT1100 chipset, and hence the SATA DVD ROM's are not recognized.

iBFT CHAP Authentication Target Parameters Not Parsed Properly By The Installer

Description	If you enable mutual CHAP authentication on SUSE Linux Enterprise Server 10 SP 2, the target parameters like IP, Port, and IQN are not parsed properly by the **ibft** module.
Workaround	Enter the authentication information such as the CHAP name manually during iSCSI target discovery phase to expose the target disk to the installer.

Intermittent Loss Of USB Functionality

Description	The USB subsystem may intermittently fail during startup on systems with multiple USB Enhanced Host Controller Interface (EHCI) and Universal Host Controller Interface (UHCI) controllers.
Workaround	Reboot the system.
Cause	When the EHCI is initialized, devices connected to the UHCI are disconnected. Attempting to install a driver, while trying to disconnect the device can result in an intermittent loss of USB functionality on the system.

iSCSI And Large Receive Offload (LRO) Incompatibility

Description	The operating system may stop responding when an Intel 10 GB adapter tries to connect to an iSCSI target with large receive offload (LRO) enabled. This issue can also occur during the installation of the SUSE Linux Enterprise Server 10 SP 2 on an iSCSI target using an Intel 10 GB adapter.
Workaround	Download and install the latest network drivers from **support.dell.com**.

Intermittent Failure Of Keyboard And Mouse At The SUSE Linux Enterprise Server 10 GUI Login Prompt

Description	The keyboard and mouse functionality fail intermittently at the GUI login prompt of SUSE Linux Enterprise Server 10.
Workaround	Load the **EHCI** module (**ehci_hcd**).
Cause	The **EHCI** and the **UHCI** drivers loading concurrently cause the failure of USB controllers initialization. This results in loss of USB functionality.

Known Issues In SUSE Linux Enterprise Server 10 SP 3

This section contains information about known issues, resolutions, and their workarounds when using SUSE Linux Enterprise Server 10 SP 3 on your Dell system.

Unable To Update Bootloader When SUSE Linux Enterprise Server 10 SP 2 Is Upgraded To SUSE Linux Enterprise Server 10 SP 3

Description	When you install the boot loader while upgrading from SUSE Linux Enterprise Server 10 SP 2 to SUSE Linux Enterprise Server 10 SP 3, the boot loader fails to mount.
Workaround	To work around the issue, edit the GRUB configuration file to point to the correct root path. This issue will be fixed in a future service pack of SUSE Linux Enterprise Server 10.
Cause	This issue occurs because the function responsible for getting all the mount points does not return all the values correctly.

Unable To Install SUSE Linux Enterprise Server 10 SP 3 On An iSCSI LUN

Description	When you try to install SUSE Linux Enterprise Server 10 SP 3 64-bit using iSCSI boot and the spanning tree is enabled in the network switch, the iSCSI session is established but you may not be able to log in.
Workaround	Disable the spanning tree protocol on the switch ports on which the iSCSI boot NIC is configured. For information about disabling the spanning tree, see the documentation that shipped with the switch.

Issues Fixed In SUSE Linux Enterprise Server 10 SP 2

This section contains information about general issues, resolutions, and their workarounds when using SUSE Linux Enterprise Server 10 SP 2 on your Dell system.

System With The Root Device On The Logical Volume Manager (LVM) Fails To Boot After Upgrading To SUSE Linux Enterprise Server 10 Service Pack 1

Description	After you have upgraded from SUSE Linux Enterprise Server 10 GA to SUSE Linux Enterprise Server 10 Service Pack 1, the second stage installation hangs while booting. The following error message is displayed:
	
	`ERROR: Waiting for device /dev/<vg>/<lv> to appear:`
	`............not found -- exiting to /bin/sh`

Cause	The issue is caused by a bug in **mkinitrd** that does not match the Enterprise Volume Management System (EVMS)/LVM devices.

Call Trace Observed With Direct Input Output On Pre-Formatted Tape Media Using Tar Commands

Description	I/O operations with tape drives must occur in fixed block mode with buffer size that is a multiple of pre-formatted block size. This issue is not specific to any HBA and occurs frequently when you are using the following media: • Pre-formatted new media. • Media formatted with different block size using a backup software. • Running **tar** commands after setting a different block size using the mount command (**mt**).
Workaround	To fix this issue, download the **dkms** driver fix from **support.dell.com**.
Cause	When you are performing direct I/O operations with tape drives using commands such as tar in fixed block mode (with buffer sizes that are not a multiple of the pre-formatted block size), a call trace occurs and the system hangs.

System Does Not Respond Under Stress Conditions

Description	Your Dell PowerEdge system running SUSE Linux Enterprise Server 10 may not respond under stress conditions when the **cupsd** process running at idle priority is inactive.
Workaround	To fix this issue, modify the **cups** file in the **/etc/init.d** directory as shown below: 1. Search for `/usr/bin/ionice -c 3 startproc $CUPSD_BIN $CUPSD_OPTIONS` in the **/etc/init.d/cups** file. 2. Modify the line to:`/usr/bin/ionice -c 2 -n 7 startproc $CUPSD_BIN $CUPSD_OPTIONS`

Issues Fixed In SUSE Linux Enterprise Server 10 SP 1

This section contains information about general issues, resolutions, and their workarounds when using SUSE Linux Enterprise Server 10 SP 1 on your Dell system.

No Keyboard Input When X Window Connects To dev tty2

Description   If your system is running on runlevel 5, the keyboard may not function after the
system is turned on.

Workaround   Change the runlevel to 3 (init 3) and then change the runlevel to 5 (init 5) by
replacing the following parameters:
```
console=tty0 console=ttyS0,115200
with console=ttyS0,115200 console=tty0
```

Cause   This issue occurs when the console parameters are used in the kernel command
line and when the last console parameter indicates a serial console. X Window
uses **/dev/tty2** and not **/dev/tty7** when the failure occurs.

System Hangs While Using Network Bonding Configuration On Systems Running SUSE Linux Enterprise Server 10

Description   If you are using the network bonding configuration in mode 2 (balance-XOR),
mode 5 (TLB), or mode 6 (ALB) on systems running SUSE Linux Enterprise Server
10, the system may hang under network stress.

Additional Information

- For additional information about using and administering the SUSE Linux Enterprise Server 10
  operating system, see **suse.com** .
- You can download updated operating system packages and the latest kernel releases and updates at
  suse.com/customercenter.
- You can download the latest BIOS, firmware versions, Information Update document, and Linux files
  tailored for your Dell hardware from **dell.com/support**.
- Dell's public mailing lists promote community involvement among Dell customers who use Linux. To
  sign up for these lists , see **lists.us.dell.com**.