

Dell™ PowerEdge™ Systems  
SUSE® Linux Enterprise  
Server 9 for x86\_64 Technology  
**Installation Instructions and  
Important Information**



# Notes and Notices



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



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

---

**Information in this document is subject to change without notice.**

**© 2006–2008 Dell Inc. All rights reserved.**

Reproduction in any manner whatsoever without the written permission of Dell Inc. is strictly forbidden.

Trademarks used in this text: *Dell*, the *DELL* logo, *PowerEdge*, and *OpenManage* are trademarks of Dell Inc.; *SUSE* is a registered trademark of Novell, Inc. in the United States and other countries; *Intel* is a registered trademark of Intel Corporation.

Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell Inc. disclaims any proprietary interest in trademarks and trade names other than its own.

# Contents

<b>Installing and Reinstalling SUSE Linux Enterprise Server 9 . . . . .</b>	<b>5</b>
Using the Dell Systems Build and Update Utility media . . . . .	5
Installing SUSE Linux Enterprise Server 9 Using the SUSE Linux media . . . . .	6
Installing on Systems With a Dell Utility Partition . . . . .	7
Obtaining the DKMS Framework for Device Drivers . . . . .	7
Updating Your System Packages Using YOU . . . . .	7
Configuring Your System Settings . . . . .	7
<b>Important Information. . . . .</b>	<b>8</b>
Systems Configured With an nVidia Chipset Fail to Boot . . . . .	8
SATA Optical Drives Not Supported With SUSE Linux Enterprise Server 9. . . . .	8
Incorrect CPU Core Information is Displayed on Systems Running SUSE Linux Enterprise Server 9 . . . . .	9
Linux Enumeration of NICs . . . . .	9
USB Subsystem not Functional With More Than 2.5 GB of RAM. . . . .	9
System Hang When Running SUSE Linux Enterprise Server 9 on SATA Systems With More Than 3 GB of RAM . . . . .	9
Problems Installing SUSE Linux Enterprise Server 9 With a CERC SATA Six-Channel RAID Controller . . . . .	10
Performing Nonanonymous FTP Installations. . . . .	10
Possible Segmentation Fault in Third-Party Applications With New Support for NX . . . . .	10
Large Virtual Resolution Displayed When DRAC Is Present . . . . .	11
Installation Hangs on PowerEdge 6800 and 6850 With Less Than Four CPUs . . . . .	11
Installing on Systems With Less Than 512 MB of RAM . . . . .	11

Installing SUSE Linux Enterprise Server 9 on PowerEdge SC430, SC830, and SC850 . . . . .	11
Installing SUSE Linux Enterprise Server 9 on the Adaptec 39320 SCSI Controller . . . . .	11
Dell OpenManage™ Server Administrator Alerts Not Received in KDE Konsole . . . . .	12
Incorrect IP Address Displayed in SNMP Applications. . . . .	12
Issue With sax2 When Probing for Monitors . . . . .	12
Pressing the Power Button may not Shut Down the System. . . . .	12
Mouse Tracking Synchronization Problem When Connecting Through the DRAC Remote Console. . . . .	13
Glibc Error Displayed After Writing Configuration File with snmpconf. . . . .	13
System Time Might Become Inconsistent With the Hardware Clock . . . . .	14
X Window System Fails to Start When PCI Cards are Added or Removed From the System . . . . .	14
<b>Finding More Information. . . . .</b>	<b>14</b>

This document provides the following information:

- Instructions for installing and reinstalling SUSE® Linux Enterprise Server 9 on your Dell™ system
- Sources of additional help

## Installing and Reinstalling SUSE Linux Enterprise Server 9

Use one of the following methods to install or reinstall SUSE Linux Enterprise Server on your system:

- Using *Dell Systems Build and Update Utility* media
- Custom installation using the SUSE installation media

Dell recommends that you use the *Dell Systems Build and Update Utility* media to install and reinstall SUSE Linux Enterprise Server 9. The *Dell Systems Build and Update Utility* media provides the following installation benefits:

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

If you want to perform custom installation using the SUSE Linux media, you may need to perform additional manual modifications or install additional packages not located on the SUSE Linux media. See "Important Information" on page 8 in this document. Also, see the Dell Support website at [support.dell.com](http://support.dell.com) to download additional software.

### Using the *Dell Systems Build and Update Utility* media

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 shipped along with your media kit.

## Installing SUSE Linux Enterprise Server 9 Using the SUSE Linux media



**NOTE:** For consistent mounting of storage partitions, it is recommended that you place file system labels on all file systems, and mount the file systems by file system label. This provides a consistent file system naming and identification, and allow the system to continue to boot correctly as storage is added to or removed from the system.

File system labels should be added when the operating system is being installed. To do this, complete the following steps during the installation process:

- 1 Select **Create custom partition setup** in the partitioning tool.
- 2 Select **Custom partitioning – for experts**.
- 3 On the **Expert Partitioner** dialog screen, select **Create**.
- 4 Configure your partition, and then select **Fstab Options**.
- 5 Select the **Volume Label** option in **Mount in /etc/fstab by**, and then specify a volume label when prompted.
- 6 Complete these steps for all partitions that you created.

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

- 1 Insert the *Service Pack* CD 1 into your CD/DVD drive and reboot the system. After the system boots to the media, an installation option menu and six installation configuration choices appear along the bottom of the screen.
- 2 Make your preferred installation configuration selection if necessary, and then select **Installation** from the 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 contained in the `/docu` directory on *Installation* CD 1 of 6.

## Installing on Systems With a Dell Utility Partition

If you are installing or reinstalling SUSE Linux Enterprise Server 9 on a system with a Dell utility partition, use **YaST** to install the boot loader on the first sector of the boot partition. To do so, follow these steps:

- 1 Select the **Booting** menu option from within **YaST**.
- 2 Select **Boot Loader Section of Boot Partition** under **Boot Loader Location**.

Following this procedure maintains the ability to boot to the utility partition because the system does not overwrite the master boot record.



**NOTE:** If you have a utility partition, view the existing partitions in the **YaST** installer. The utility partition is located on the **/dev/sda1** partition. **YaST** must not overwrite this partition by default.

You can download updated operating system packages and the latest kernel releases and updates through the **YaST Online Update (YOU)** service.

## Obtaining the DKMS Framework for Device Drivers

Dell device driver packages that are not available on the SUSE Linux 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 the Dell Support website at [support.dell.com](http://support.dell.com).

## Updating Your System Packages Using YOU

SUSE periodically releases software updates to fix bugs, address security issues, and add new features. You can download these updates through the **YOU** service. Dell strongly recommends that you use **YOU** to update your system software to the latest revisions before you deploy your system.

## Configuring Your System Settings

To configure your system after the installation, including hardware, software, and services, use **YaST**. To start **YaST** in a text console, type `yast` at a command prompt. Within the X Window System, type `yast2` in a terminal window, or choose **YaST** from the **System** menu item on the SUSE Linux main menu on the K Desktop Environment (KDE).

## Important Information

This section contains information about software fixes, problems you might encounter, and other information for using SUSE Linux on your Dell system.

### Systems Configured With an nVidia Chipset Fail to Boot

If your system is configured with an nVidia chipset, it fails to boot. The Linux kernel does not recognize the nVidia PCI Interrupt router device and cannot route interrupts properly in PIC mode. To work around this issue, use `apic` on the command line while booting.

A fix for this issue will be available in a future update of SUSE Linux Enterprise Server 9.

### SATA Optical Drives Not Supported With SUSE Linux Enterprise Server 9

SUSE Linux Enterprise Server 9 SP 3 and earlier does not support SATA optical devices as the default driver (2.6.5-7.244 kernel) does not detect these devices. When you try to install operating system using SATA optical drives, the following error messages may appear:

```
Could not find the SUSE Linux Enterprise Server 9
Installation CD. Activating manual setup program.
```

OR

```
Unable to mount the CD-ROM
```

To workaroud this issue, perform one of the following:

- Use the *Dell Systems Build and Update Utility* media to install the operating system. The *Dell Systems Build and Update Utility* media is shipped along with your system and you can also download the media image from the Dell Support website at [support.dell.com](http://support.dell.com). The SATA optical drive is not detected by the operating system during and after the boot process.
- Install the operating system through network.
- Install the SUSE Linux Enterprise Server 9 SP4.

Device driver support for the SATA optical drives have been included in SUSE Linux Enterprise Server SP4 and later.



## **Incorrect CPU Core Information is Displayed on Systems Running SUSE Linux Enterprise Server 9**

If your system is configured with Intel® 72XX processors, the `/proc/cpuinfo` command displays incorrect number of cores.

A fix for this issue will be available in a future update of SUSE Linux Enterprise Server 9.

## **Linux Enumeration of NICs**

Linux operating system versions that use the `udev` kernel device manager may enumerate the NICs differently than earlier Linux versions, which used the `devfs` device manager. Although this does not affect system functionality, when using SUSE Linux Enterprise Server 9 operating systems, NIC1 may be configured as `eth1` rather than as `eth0`, and NIC2 as `eth0`. For more information and to find methods of changing the default device enumerations, see [White Papers](#) at [linux.dell.com](http://linux.dell.com).

## **USB Subsystem not Functional With More Than 2.5 GB of RAM**

If you use SUSE Linux Enterprise Server 9 on a system with more than 2.5 GB of RAM, the Universal Serial Bus (USB) ports might not function correctly, and the operating system may display `uchi_hcd` error messages on the screen and in the system logs. In this case, the USB memory keys, the USB CD-ROM drives, and the USB diskette drives do not work with the system. This occurs due to a kernel bug in the USB subsystem code. This issue is resolved in SUSE Linux Enterprise Server 9 (Service Pack [SP] 1) (2.6.5-7.139 kernel) and later.

## **System Hang When Running SUSE Linux Enterprise Server 9 on SATA Systems With More Than 3 GB of RAM**

Systems may experience kernel panics under stress if they run on SUSE Linux Enterprise Server 9 with SATA disk drives that are attached to 32-bit-capable disk controllers (such as the Intel ICH5, ICH6, and ICH7), onboard SATA controllers (using the `ata_piix` driver), and the cost effective RAID controller serial advanced technology attachment (CERC SATA) 6ch RAID cards (using the `aacraid` driver). This may cause potential loss of data.

This is due to a bug in the bounce buffer section of the core SUSE Linux Enterprise Server 9 memory management (mm) kernel code. A patch for this bug is available in kernel 2.6.5-7.252 and later. A temporary workaround for this bug is to restrict the memory of the SUSE Linux Enterprise Server 9 configurations to less than 3 GB either by physically reducing RAM or passing the `mem=<some value less than 3 GB>` parameter to the kernel command line at boot time.

## **Problems Installing SUSE Linux Enterprise Server 9 With a CERC SATA Six-Channel RAID Controller**

You cannot install SUSE Linux Enterprise Server 9 Gold (2.6.5-7.97 kernel) onto a system that contains a Dell CERC SATA six-channel RAID controller. If done so, the installation fails and the controller moves the hard drives into an offline state. This is due to a bug in the `aacraid` driver module, and the issue is resolved in SUSE Linux Enterprise Server 9 SP 1 (2.6.5-7.139 kernel) and later.

## **Performing Nonanonymous FTP Installations**

If you are installing SUSE Linux Enterprise Server 9 via nonanonymous (that is, username and password required) FTP and using an absolute path on the file system, you must add `%2f` in front of the leading forward slash (/). For example, if the FTP server is `ftp://domain.com`, the username is `user`, and the path to a file on that server is `/srv/ftp`, the FTP URL is `ftp://user@domain.com/%2f/srv/ftp`.

## **Possible Segmentation Fault in Third-Party Applications With New Support for NX**

Some Dell systems support the Execute Disable (XD) or No Execute (NX) feature offered with some Intel processors. By default, SUSE Linux Enterprise Server 9 uses XD support. This might result in unexpected segmentation violations (SEGV) with some of your third-party applications. Applications that attempt to execute code on their process stacks, or to execute code in pages of memory allocated or memory mapped without the EXEC attribute, causes a SEGV signal to be sent to the process.

For systems running these applications, it is necessary to run these systems with XD disabled until the third-party vendor can supply a version of the application compatible with XD. To disable XD, specify `noexec=off` and `noexec32=off` on the kernel parameter line in `/boot/grub/menu.lst`.

## Large Virtual Resolution Displayed When DRAC Is Present

When Dell Remote Access Controller (DRAC) is present in a PowerEdge system, the X Window System may present a virtual display resolution that is larger than the actual monitor size. If this occurs and is bothersome, add the following lines to the *Device* section in the `/etc/X11/XF86Config` file:

```
Option "MonitorLayout" "TMDS, NONE"  
Option "DDCMode"
```

## Installation Hangs on PowerEdge 6800 and 6850 With Less Than Four CPUs

When you install SUSE Linux Enterprise Server 9 SP2 or earlier on PowerEdge 6800 or 6850 that contains fewer than four processors, the installation hangs due to a kernel bug. To work around this issue, pass `acpi=off` to the installer. This bug causes a problem only in the default (uniprocessor) kernel and does not affect the Symmetric Multiprocessor (SMP) kernel. As only the SMP kernel is installed on the system, you do not see the problem after you install the operating system. This bug is fixed in SUSE Linux Enterprise Server 9 SP3 (kernel 2.6.5-7.244) and later.

## Installing on Systems With Less Than 512 MB of RAM

For SUSE Linux Enterprise Server 9 EM64T, Graphical User Interface (GUI) mode installation is not supported on systems with less than 512 MB of RAM. If your system has less than 512 MB of RAM, use the text mode to install SUSE Linux Enterprise Server 9.

## Installing SUSE Linux Enterprise Server 9 on PowerEdge SC430, SC830, and SC850

Device driver support for the Intel 82801GR SATA controller on PowerEdge SC430, SC830, and SC850 was not added natively to SUSE Linux Enterprise Server 9 until SP 2 (2.6.5-7.191 kernel). To install SUSE Linux Enterprise Server 9 on these systems, use SP 2 or later.

## Installing SUSE Linux Enterprise Server 9 on the Adaptec 39320 SCSI Controller

Device driver support for the Adaptec 39320 SCSI controller was not added natively to SUSE Linux Enterprise Server 9 until SP 2 (2.6.5-7.191 kernel). To install SUSE Linux Enterprise Server 9 on these systems, use SP 2 or later.

## **Dell OpenManage™ Server Administrator Alerts Not Received in KDE Konsole**

The KDE text console, known as Kconsole, cannot display Dell OpenManage Server Administrator alerts if the alert action is configured to broadcast the event to all SUSE Linux Enterprise Server 9 active consoles. When using KDE, alternatives such as Xconsole displays the broadcast alert correctly.

## **Incorrect IP Address Displayed in SNMP Applications**

There is a bug in net-snmp 5.1.3.1-0.6 RPM and earlier where snmp daemon provides an incorrect SNMP response to a request for a network interface address. For example, if a network has an Internet Protocol (IP) address of 192.168.1.1, the snmp daemon provides an IP address of 192.168.1.1.0.0.0.0. This may have adverse effects when trying to manage the system including operations with the Dell OpenManage IT Assistant. To avoid this issue, update the net-snmp RPM to version 5.1.3.1-0.13 or later using YOU.

## **Issue With sax2 When Probing for Monitors**

On some Dell systems, when configuring your monitor with the sax2 utility, the utility may be unable to successfully probe the monitor attached to the system. To resolve this issue, update the hwinfo package to version 8.100-0.2 or later via YOU.

## **Pressing the Power Button may not Shut Down the System**

In some cases, pressing the power button while using KDE may simply log the user out of the X Window System, rather than causing the system to shut down. If this occurs, press the power button again, or type the following at a command prompt to shut down the system:

```
init 0
```

OR

```
shutdown -h now
```

## Mouse Tracking Synchronization Problem When Connecting Through the DRAC Remote Console

When connecting through the remote console to a PowerEdge system with DRAC4, DRAC5, and iDRAC running SUSE Linux Enterprise Server 9, the local mouse may not synchronize with the server mouse in the remote console. To resolve this issue, complete the following steps on the remote server:

- 1 If you are using a version of SUSE Linux Enterprise Server 9 prior to SP4, download and install the latest ATI radeon driver package from the Dell Support website at [support.dell.com](http://support.dell.com).
- 2 Start the `sax2` utility by typing `sax2` at a command prompt.
- 3 In the `sax2` window, click **Input-Devices**, and then **Mouse**.
- 4 Click **Change Configuration**, and remove any mouse entries that begin with **Autodetection**.
- 5 Click **Add a New Mouse**, then select the **Auto-Generic** mouse.
- 6 Save the changes, and then restart your X Window session.

## Glibc Error Displayed After Writing Configuration File with `snmpconf`

When using the `snmpconf` utility to create a new snmp configuration file, you may see the following message on the screen when the utility saves the new configuration file:

```
*** glibc detected *** double free or corruption
(!prev): 0x00000000009b3be0 ***
*** glibc detected *** double free or corruption
(!prev): 0x00000000009b3740 ***
```

This message is harmless and has no effect on system operation, and can be ignored.

## System Time Might Become Inconsistent With the Hardware Clock

On certain PowerEdge systems running SUSE Linux Enterprise Server 9, the system time may not synchronize with the hardware clock.

A workaround for this problem is to use the kernel boot parameter **nohpet** in **boot/grub/menu.lst** or use network time protocol (NTP) to synchronize the system time with a reliable time source. This issue will be resolved in a future SUSE Linux Enterprise Server 9 update.

## X Window System Fails to Start When PCI Cards are Added or Removed From the System

Adding, removing, or modifying Peripheral Component Interconnect (PCI) cards in PCI slots on PowerEdge systems can result in X Window System failing to start. This is caused due to the **BusID** parameter in the **/etc/X11/XF86Config** file not being updated when PCI cards in the system are changed.

To workaround this issue, change the line beginning with **BusID** in the **/etc/X11/XF86Config** file into a comment. This issue will be resolved in a future SUSE Linux Enterprise Server 9 update.

## Finding More Information

- For additional information about using and administering the SUSE Linux Enterprise Server 9 operating system, see [www.suse.com](http://www.suse.com) or [www.novell.com](http://www.novell.com).
- You can download updated operating system packages and the latest kernel releases and updates through the YOU service in **YaST**.
- The Dell Support website at [support.dell.com](http://support.dell.com) has more information, including an *Information Update* document and the latest BIOS and firmware versions. There you can also download the Linux files tailored for your Dell hardware.
- Dell's public mailing lists promote community involvement among Dell computer users who use Linux. To sign up for these lists, see [lists.us.dell.com](http://lists.us.dell.com).