Microsoft® Windows Server® 2003 R2, Standard and Enterprise x64 Editions With SP2 for Dell™ PowerEdge™ Systems

Installation and Setup Guide

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.

Contents

The following technical information explains how to install your Microsoft® Windows Server® 2003 R2 Standard or Enterprise with SP2 operating system.

This document covers the following topics:

- Preinstallation Requirements
- Installing the Microsoft Windows Server 2003 R2, Standard or Enterprise Edition With SP2 Using the Reinstallation Media
- Installing the Microsoft Windows Server 2003 R2, Standard or Enterprise Edition With SP2 Using the Dell PowerEdge™ Installation and Server Management CD
- Installing the R2 Components

NOTE: If you have purchased a Dell™ system without an operating system, Dell strongly recommends that you use the supported version of the *Dell PowerEdge Installation and Server Management* CD to guide you through the operating system installation. The *Dell PowerEdge Service and Diagnostic Utilities* CD contains the latest drivers available at the time you purchased your system. See the Dell Drivers and Downloads website at **support.dell.com/support/downloads** for any updated drivers that were not included on your *Dell PowerEdge Service and Diagnostic Utilities* CD.

NOTE: If you use the Reinstallation Media to install the operating system, you must install the latest device drivers located either on the *Dell PowerEdge Service and Diagnostic Utilities* CD or on the Dell Drivers and Downloads website at: **support.dell.com/support/downloads**. For additional information on Microsoft updates, see the *Important Information* for your operating system located at **www.dell.com/ostechsheets**.

NOTE: The operating system Reinstallation Media included in your kit may not have the latest operating system updates. If you reinstall your operating system using this media, download the latest updates from the Microsoft Windows Update website located at **update.microsoft.com**.

To determine which devices require drivers, boot your system from the *Dell PowerEdge Installation and Server Management* CD and select **View Hardware** in the **Welcome to Dell OpenManage™ Server Assistant** window. The devices installed on your system are listed on the screen.

Preinstallation Requirements

Listed below are the preinstallation requirements:

- Read the Microsoft *Getting Started* document that came with your SP2 documentation.

- Download the latest BIOS, firmware, and driver updates from the Dell Support website at **support.dell.com**.

  See "Important Information for Windows Server 2003 x64 Editions" at **www.dell.com/ostechsheets** for information on the minimum supported BIOS, system firmware, and RAID controller driver versions for SP2.

- Create a device driver diskette.

Creating a Device Driver Diskette

1 Insert the *Dell PowerEdge Service and Diagnostic Utilities* CD into another system running the Windows® operating system.

   The *Dell PowerEdge Service and Diagnostic Utilities* CD starts automatically.

   If the CD *does not* start automatically:

   a Open Windows Explorer.

   b Locate the CD drive.

   c Right-click the CD drive and click **AutoPlay**.

   The **Dell Service and Diagnostic Utilities** window appears.

2 In the **Please Select A Server** drop-down menu, select the name of your system.

3 In the **Select Drivers/Utilities Set** box, select **System Utilities** and click **Continue**.

   The **Utilities and Drivers Page** window appears.

4 Click the appropriate file for your operating system.

5 Follow the prompts on the screen to download the file.

6 Save the self-extracting zip file to the local hard drive and then extract the file to a diskette.

7 Close the **Dell Service and Diagnostic Utilities** window.

8 Remove the *Dell PowerEdge Service and Diagnostic Utilities* CD from the CD drive.

Setup Limitation While Installing Dell Drivers on Servers Without a Diskette Drive Running Microsoft Windows

You may encounter issues while installing the operating system and Dell mass storage device drivers using the F6 prompt on a server without a physical diskette drive (A:\). The text mode portion of the Windows Setup requires that additional mass storage drivers that are provided through the F6 prompt be located on the A:\ (where A is the drive letter for the diskette drive).

This is a limitation on any server that is not configured with a diskette drive and occurs only while installing Windows 32-bit or 64-bit extended operating systems. You do not have to replace any hardware.

To fix this issue, add a physical or virtual diskette drive on your server. The following four options described in the sections below enable you to install Dell drivers on your server:

- Using the *Dell PowerEdge Installation and Server Management* CD
- Using the Dell Remote Access Controller (DRAC)Diskette Image
- Using the Dell USBKeyPrepF6 Utility
- Adding Drivers to Windows Installation

Using the Dell PowerEdge Installation and Server Management CD

Use the *Dell PowerEdge Installation and Server Management* CD that shipped along with your server to ensure that all the supported drivers for the Windows operating system are installed.

Using the DRAC Diskette Image

Install the Dell mass storage drivers using DRAC 4 or DRAC 5 diskette images located on the Dell Support website at **support.dell.com**. See the DRAC documentation that is shipped along with your server to set up virtual diskette drive media.

NOTE: You can install drivers using this procedure only if your server has a DRAC installed and configured.

Using the Dell USBKeyPrepF6 Utility

This section describes how to prepare a Universal Serial Bus (USB) key for use with the F6 prompt on Dell mass storage devices. The Dell USBKeyPrepF6 Utility helps you to prepare a USB key to use with the F6 prompt only during the installation of Windows Server 2003 operating systems.

1 Go to the Dell Support website located at **support.dell.com**.

2 Click **Drivers and Downloads**.

3 You can either enter your Service Tag or choose the Product Type and Product Model. After you enter this information, click Go.

4 From the Choose Operating System Type drop-down menu, select Microsoft Windows Server 2003.

5 Click **Find Downloads**.

6 Expand the group titled **System and Configuration Utilities**.

7 Click **Dell USBKeyPrepF6 Utility**.

8 Download the utility and unzip it.

9 Follow the instructions in the **readme.txt** file.

    ⬤ **NOTICE:** All data on the USB key will be erased when you format it using this utility.

10 Go to the Dell Support website from which you downloaded the Dell USBKeyPrepF6 Utility. Expand the group for your controller type.

11 Select the type of controller for your system and download the Dell mass storage device driver to a location that you can access later. Ensure that you choose the Hard-Drive Package option.(You will need this driver when using the Dell USBKeyPrepF6 Utility).

    ✏ **NOTE:** After you successfully install the drivers, you must reformat the USB key using the Windows Disk Management application in order to get the USB key back to a normal usable state.

Adding Drivers to Windows Installation

Use an automated deployment method to add OEM Plug and Play drivers to your Windows installation. For more information on using this method refer to the following Microsoft Knowledge base articles:

- http://support.microsoft.com/kb/254078/en-us
- http://support.microsoft.com/kb/816299/en-us

NOTE: You can download the latest Broadcom drivers from the Dell Support website at support.dell.com.

Installing the Microsoft Windows Server 2003 R2, Standard or Enterprise Edition With SP2 Using the Reinstallation Media

1 Connect a keyboard, monitor, mouse, and any additional peripherals to your system.

2 Turn on your system and any attached peripherals.

NOTE: Several BIOS windows appear during startup, but do not require any user intervention.

3 Insert the *Microsoft® Windows Server® 2003 R2, Standard x64 Edition with SP2 Disk 1* CD into the CD drive.

4 Press <Ctrl><Alt><Delete> and restart your system.

If a Windows operating system is installed on your system, the following message appears:

```
Press any key to boot from your CD...
```

5 Press any key to boot from the CD.

If a Windows operating system *is not* installed on your system, the screen turns black. Next, Windows Setup appears in text mode on a blue screen.

6 If you need to install additional device drivers for the boot device or other devices, press <F6> immediately and perform the following procedure. If you *do not* need to install additional device drivers, go to step 7.

   a When prompted, press <s> to select and add any additional devices.

   b Insert the device driver diskette into the diskette drive and press <Enter>.

     A list of device drivers appears.

   c Select the appropriate device driver, and press <Enter>.

     Windows Setup loads the appropriate drivers on your system.

   d Verify that Windows loaded the correct device driver on your system.

   e Repeat step a through step d to install any additional device drivers. Otherwise, press <Enter> to continue.

     A message appears stating that Windows Setup is starting Windows.

7 In the **Welcome to Setup** window, press <Enter> to continue.

8 If you do not have Console Redirection enabled on your system, the custom setup will run by default.

> **NOTE:** To enable Console Redirection, enable the console redirection option in the BIOS.

If Console Redirection is enabled on the system, choose one of the following selections:

- **Express Setup** — Automatically configures most of your configuration settings, requiring little or no user intervention.

  To run Express Setup, press <Enter> and go to "Running Express Setup."

- **Custom Setup** — Allows you to customize your system name and networking components, including TCP/IP and your domain name.

  To run custom setup, press <C> and go to "Running Custom Setup."

Running Express Setup

1 When prompted from the **Windows Server 2003 Setup** screen, enter the administrator password and press <Enter>.

2 When prompted to confirm the password, re-enter the administrator password and press <Enter>.

3 If the **Windows Licensing Agreement** window appears, go to step 4.

   If the **Windows Licensing Agreement** window *does not* appear, go to step 5.

4 Read the information carefully, and if you agree with all of the information, press <F8> to continue. A window appears displaying the existing partitions and unpartitioned space on your system's hard drive.

   If you do not agree with the information, press <Esc>. Your system restarts, and Windows is not installed on your system.

5 Select an available partition to install the operating system and press <Enter>.

6 Select the appropriate file system for your Windows partition, and then press <Enter>.

   NOTE: For maximum security, Dell recommends that you format the partition using NTFS.

   NOTE: This process may take a few minutes to complete.

7 Remove any driver diskette that may be present in the diskette drive.

   When prompted, do not press any key to boot from CD.

   The **EMS Connection Detected** window appears after the system reboots.

8 Click **OK** or press <Enter> to continue.

   An error message pop-up window may appear, stating that a setup parameter is missing or invalid.

   NOTE: If you are not using a CD supplied by Dell, you will have to enter the Windows Product Key at this stage.

9 Click **OK**.

Windows Setup completes the installation procedure and restarts your system.

🖉 **NOTE:** This process may take several minutes to complete.

Windows Setup automatically logs you onto your system. The system prompts you to insert the *Microsoft® Windows Server 2003 R2, Standard x64 Edition with SP2 Disk 2 CD or Microsoft® Windows Server 2003 R2, Enterprise x64 Edition with SP2 Disk 2 CD* into the CD drive.

🖉 **NOTE:** To install the optional R2 components, click **OK** and then see Installing the R2 Components to complete the installation.

10 Click **Cancel** to proceed with the operating system installation without installing the optional R2 components.

A Windows Setup dialog box appears with directions on how to install the optional R2 components at a later time.

11 Click **OK**.

The **Manage Your Server** window appears.

The Microsoft Windows Server 2003 SP2 x64 Standard or Enterprise operating system is now installed on your system.

�‑ **NOTICE:** Dell recommends that you download and install any patches or hotfixes from the Microsoft Support website at **support.microsoft.com**.

🖉 **NOTE:** Windows Setup randomly selects your computer name to avoid identical name conflicts on your network and configures your system to join the WORKGROUP workgroup. You can join your system to your domain after the operating system is installed on your system.

Running Custom Setup

1 When the **Windows Licensing Agreement** window appears, read the information carefully.

   If you agree with all the information, press <F8> to continue. A window appears displaying the existing partitions and unpartitioned space on your system's hard drive.

   If you do not agree with the information, press <Esc>. Your system will restart, and Windows will not be installed on your system.

   NOTE: If your hard drive is configured with a Windows partition, you may receive an option to repair the partition. Press <Esc> to continue with your new operating system installation.

2 Select an available partition to install the operating system and press <Enter>.

   NOTE: Dell recommends that you create a partition of 12-GB or larger.

3 Select the appropriate file system for the Windows partition, and then press <Enter>.

   NOTE: For maximum security, Dell recommends that you format the partition using NTFS.

   Windows Setup formats your partition with the selected file system and copies the operating system files to your system.

   NOTE: This process may take a few minutes to complete.

4 Remove any diskette from the diskette drive, and press <Enter> to restart your system.

   If you do nothing, Windows Setup automatically restarts the system after 15 seconds.

   When prompted, *do not* press any key to boot from the CD.

   If Console Redirection is enabled, the **EMS Connection Detected** window appears. Click **OK** to continue.

   The **Windows Setup** window appears and displays the installation progress.

   Next, the **Installing Device** window appears, and your screen flashes a few times. This behavior is normal.

   Finally, the **Regional and Language Options** window appears.

5 Review the displayed default settings.

If the default settings are correct, perform the following steps:

a Click **Next**.

The **Personalize Your Software** window appears.

b Go to step 6.

If the default settings are *not* correct, perform the following steps:

a Click **Customize**.

The **Regional and Language Options** window appears.

b In the **Regional Options** tab, modify the regional and location settings, if required, and click **OK**.

The **Regional and Language Options** window appears.

c Click **Details**.

The **Text Services and Input Languages** window appears.

d In the **Settings** tab, modify the default input language and installed services (if required), click **OK**, and then click **Next** to continue.

The **Personalize Your Software** window appears.

6 Type your full name and the name of your company or organization, and click **Next**.

NOTE: If you are not using a CD supplied by Dell, you will have to enter the Windows Product Key at this stage..

The **Licensing Modes** menu appears.

7 Select one of the following options:

- **Per server**

  If you select **Per server**, you must enter the number of concurrent connections included with your Client Access License in the drop-down menu.

- **Per Device or Per User**

  If you select **Per Device or Per User**, the license manager verifies that each individual system has a valid license at log in.

  Click **Next.**

  The **Computer Name and Administrative Password** window appears.

8 Type your computer name and administrator password, and click **Next**.

The **Date and Time Settings** window appears.

9 Set the date, time, and time zone for the system, and click **Next**.

Windows Setup begins installing the network components.

✍ NOTE: This procedure may take several minutes to complete.

The **Networking Settings** window appears.

10 Select one of the following settings:

✍ NOTE: Dell recommends that you select Typical Settings.

- **Typical Settings** (default) — Configures your system with the default settings.

- **Custom Settings** (experienced administrators only) — Allows you to configure the following settings in the **Networking Components** window for each network adapter on the system:

  - Client for Microsoft Networks
  - Network Load Balancing
  - File and Printer Sharing for Microsoft Networks
  - Internet Protocol (TCP/IP)

If you selected **Custom Settings** and need to install additional network components, perform the following steps in the **Networking Components** window:

a   Click **Install**. The **Select Network Component Type** window appears.

b   Select the type of network component.

c   Click **Add**.

d   Select a network component or network service, click **OK**. The **Networking Components** window appears.

11   Click **Next**.

The **Workgroup or Computer Domain** window appears.

12   Select one of the following options:

- **No, this computer is not a network, or is on a network without a domain. Make this computer a member of the following workgroup:**

  Requires you to assign a workgroup name to your system. Choosing this selection allows any system on the LAN with the same workgroup name to connect to your system.

  Enter a workgroup name, and click **Next**.

- **Yes, make this computer a member of the following domain:**

  Enter the appropriate domain name, and click **Next**.

  The **Join Computer to *<your_domain_name>* Domain** window appears. Enter a domain administrator user name and password, and click **OK**.

  📝 **NOTE:** You must have administrator rights to join the domain.

Windows Setup continues the installation procedures, and then restarts your system.

📝 **NOTE:** This procedure may take several minutes to complete.

The **Welcome to Windows** window appears.

13   Press <Ctrl><Alt><Delete>.

The **Log On to Windows** dialog box appears.

14 Type your administrator password, and click **OK**.

The system prompts you to insert the *Microsoft Windows Server 2003 SP2 Disk 2 CD* into the CD drive.

15 Click **OK** to install the optional R2 components. See "Installing R2 Components" to complete the installation.

OR

Click **Cancel** to proceed with the operating system installation without installing the optional R2 components.

A Windows Setup dialog box appears with directions on how to install the optional R2 components at a later time.

16 Click **OK**.

The **Windows Server Post-Setup Security Updates** window appears.

> ✎ **NOTE:** At this time, your Windows firewall is active. Dell recommends that you update your system with the latest critical security updates and configure **Automatic Updates** before you click **Finish**.

17 Click **Finish**.

The following warning message appears:

```
When you close this page, inbound connections to
this server will be allowed. Before continuing,
ensure that you have downloaded and installed
all available security updates.
```

18 Click **Yes** to close the window.

The **Manage Your Server** window appears.

The Microsoft Windows Server 2003 SP2 x64 Standard or Enterprise operating system is now installed on your system.

For additional information to complete the installation procedures, see the documentation that came with your software or see the Microsoft Support website at **support.microsoft.com**.

> ⊘ **NOTICE:** Dell recommends that you download and install any patches, hotfixes, and service packs from the Microsoft Support website at support.microsoft.com.

Installing the Microsoft Windows Server 2003 R2, Standard or Enterprise Edition With SP2 Using the Dell PowerEdge™ Installation and Server Management CD

1 Connect a keyboard, mouse, and monitor to your system.

2 Turn on your system.

3 Insert the *Dell PowerEdge Installation and Server Management* CD into the CD drive.

4 Press <Ctrl><Alt><Delete> to restart your system.

5 If you are not using the *Dell PowerEdge Installation and Server Management* CD for the first time, the **Welcome to Dell OpenManage™ Server Assistant** window appears. Go to step 6.

If you are using the *Dell PowerEdge Installation and Server Management* CD on your system for the first time, perform the following steps:

   a When prompted, click the appropriate language for your system.

   The **Dell Software License Agreement** window appears. Read the information carefully.

   b If you agree with all of the information, click **Accept** to continue.

   If you *do not* agree with all the information, click **Decline**. Your system restarts, and you are not able to complete the operating system installation.

6 Click **Click Here for Server Setup** to install the operating system.

The **Set the Date and Time** window appears.

7 Select the appropriate date, time, and time zone, and click **Continue**.

8 Select **Microsoft Windows Server 2003 x64 Edition** in the **Select an Operating System to Install** window that appears.

9 Click **OK**, and then click **Continue**.

If a RAID controller *is not* installed in your system, the **Configure the Physical Disk** window appears. Go to step 10.

If a RAID controller is installed on your system, the **Configure or Skip RAID** window appears. Perform the following steps:

a Select one of the following options, and click **Continue**:

- **Configure RAID**

- **Skip RAID configuration**

b If you selected S**kip RAID configuration**, go to step 10.

c If you selected **Configure RAID**, configure the RAID with one of these options:

- Click **Go to Advanced Wizard** at the top left of the page and follow the prompts.

- Select a RAID level and click **Continue**.

The RAID configuration summary will appear.

d Click **Continue**. The following message will appear:

```
All existing virtual disk(s) on this
controller will be deleted and all data will
be lost.
```

e Click **OK** to continue.

10 To set up a new boot partition, select the appropriate file system and size for your partition and click **Continue**.

NOTE: For maximum system security, Dell recommends selecting NTFS File System.

NOTE: If there is an existing partition on the hard drive, the **Confirm to delete partition** window appears. Click **Continue**. Server Assistant deletes all existing partitions on the hard drive.

The **Network Adapter(s) configuration** window appears.

11 Select one of the following options and click **Continue**:

- **Obtain IP address from DHCP server.**
- **Specify an IP address**

The **Enter Configuration Information: Microsoft Windows Server 2003 x64 Edition** window appears.

12 Type your system information in that appropriate fields and click **Continue**.

✍ **NOTE:** If you are not using the media provided by Dell, enter the Windows product key at this stage.

The **Operating System Installation Summary** window appears.

13 If the configuration settings are correct, click **Continue**.

The **Microsoft Windows Installation Wizard** window appears and the file copy process starts.

If the configuration settings are not correct, perform the following steps:

a Click **Back** until the appropriate screen appears.

b Enter the correct information.

c Click **Continue** until the **Microsoft Windows Installation Wizard window** appears.

14 When prompted, insert the *Microsoft Windows Server 2003 R2, Standard x64 Edition with SP2 Disk 1* or *Microsoft Windows Server 2003 R2, Enterprise x64 Edition with SP2 Disk 1* CD into the CD drive.

The **Dell OpenManage Server Assistant** automatically detects the CD and begins copying the operating system files.

✍ **NOTE:** This procedure may take several minutes to complete.

15 When prompted, remove the CD from the CD drive, and click **Finish**.

Your system automatically restarts, Windows Setup appears in text mode, and the installation continues.

📝 **NOTE:** If Console Redirection is enabled in the System Setup program, you are prompted for an administrator password in the text mode of Windows Setup. Enter an administrator password and press <Enter> to continue. The Emergency Management System window appears. Click OK to continue.

Windows Setup automatically restarts your system, and the **Windows Setup** window appears.

Windows Setup completes the installation and restarts your system.

16 In the **Log On** window, type your administrator password, and click **OK**.

The system prompts you to insert the *Windows Server 2003 R2 Disk 2* CD.

📝 **NOTE:** If you want to install the optional R2 components, click OK and then see the "Installing the R2 Components" section to complete the installation.

17 Click **Cancel** to proceed with the operating system installation without installing the optional R2 components.

A Windows Setup dialog box appears with directions on how to continue with the second CD install at a later time.

18 Click **OK**.

The **Windows Server Post-Setup Security Updates** window appears.

📝 **NOTE:** At this time, your Windows firewall is active. Dell recommends that you update your system with the latest critical security updates and configure Automatic Updates before you click Finish.

19 Click **Finish**.

The following warning message appears:

```
When you close this page, inbound connections to
this server will be allowed. Before continuing,
ensure that you have downloaded and installed
all available security updates.
```

20 Click **Yes** to close the window.

The **Manage Your Server** window appears.

The operating system is now installed on your system.

If you need additional information to complete the rest of the installation, see the documentation that came with your software or go to the Microsoft Support website at **support.microsoft.com**.

> ⊘ **NOTICE:** Dell recommends that you download and install any patches, hotfixes, and service packs from the Microsoft Support website at support.microsoft.com.

Installing the R2 Components

Perform the steps below to install the optional R2 components:

1 Insert the *Microsoft*® *Windows Server 2003 R2, Standard x64 Edition with SP2 Disk 2 CD or Microsoft*® *Windows Server 2003 R2, Enterprise x64 Edition with SP2 Disk 2 CD* into the CD drive, and then click **OK**.

The Welcome to the Windows Server 2003 R2 Setup Wizard window appears.

2 Click **Next**.

The **End-User License Agreement** window appears.

3 If you agree with the information, accept the license terms and click **Next.**

The **Setup Summary** window appears.

Click **Cancel,** if you do not agree with the information. You cannot proceed with the installation of the optional R2 components.

4 Click **Next**.

The **Completing Windows Server 2003 R2 Setup** window is displayed.

5 Click **Finish.**

6 The **Add Remove Programs** list in the Control Panel of your system will be now populated with additional R2 components. Choose the R2 components manually in the **Add Remove Program** list to install R2 components.

The following is a list of the optional R2 components available on the *Microsoft Windows Server 2003 SP2 Disk 2* CD:

📝 **NOTE:** For more information on the R2 components, go to **www.microsoft.com/WindowsServer2003/R2/default.mspx.**

• Active Directory Application Mode

• Active Directory Federation Services

• Identity Management for UNIX

• Distributed File System

• File Server Management

• File Server Resource Manager

• Hardware Management

• Print Management Component

• Storage Manager for SANs

• Microsoft.NET Framework 2.0

• Common Log File System

• Microsoft Services for NFS

• Subsystem for UNIX-based Application

• Windows SharePoint Services

📝 **NOTE:** If you are installing the Hardware Management component on a recently-released Dell system, a message appears containing information about third-party IPMI drivers. For more information on this message, see the document entitled "Important Information for Windows Server 2003 x64 Editions."

Perform the steps below to install a specific R2 component on your system:

1 Log on as an administrator.

2 Click **Start**→ **Settings**→ **Control Panel,** and then double-click on **Add or Remove Programs.**

3 Click on **Add/Remove Windows Components**.

The **Windows Components Wizard** window appears.

4 Select the R2 components you want to install, and follow the prompts on the screen to complete the installation.