

NovaScale T840,
T810 E1, T830 E1,
R410 E1, T840 E2

Windows 2008
Entreprise/Standard
Installation Guide (rev 2.1)



NOVASCALÉ

NovaScale T840, T810 E1,
T830 E1, R410 E1,
T840 E2

Windows 2008 Enterprise/Standard
Installation Guide (rev 2.1)

Hardware

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Introduction

This document provides step-by-step guidance for installing Microsoft® Windows Server® 2008 Standard Edition and Microsoft® Windows Server® 2008 Enterprise Edition ("Microsoft® Windows Server® 2008") on the NovaScale T810 E1, NovaScale T830 E1, NovaScale R410 E1, Novascale T840 and Novascale T840 E2 servers.

Before you install Microsoft® Windows Server® 2008, read this document carefully.

Microsoft® Windows Server® 2008

- Microsoft® Windows Server® 2008 Standard 64-bit (x64) Edition
- Microsoft® Windows Server® 2008 Enterprise 64-bit (x64) Edition
- Microsoft® Windows Server® 2008 Standard 32-bit (x86) Edition
- Microsoft® Windows Server® 2008 Enterprise 32-bit (x86) Edition

Text Conventions

The following conventions are used throughout this manual.

Warning

Warnings alert you to situations that could result in serious personal injury or loss of life.

Caution

Cautions indicate situations that can damage the system hardware or software.

 **Note:** give important information about the material being described.

Overview

The Microsoft® Windows Server® 2008 installation flow is provided below. Be sure to select "clean installation" when you install Microsoft® Windows Server® 2008 on your system.

1. See [“Before You Start” on page 9](#) and [“Important Instructions” on page 10](#).
2. See [“BIOS Update” on page 13](#).
3. [“Installing Microsoft® Windows Server® 2008” on page 17](#).
 - [“If you have selected a full installation” on page 18](#): After login, initial configuration tasks appear. Enter user information.
 - [“If you have selected a Server Core installation” on page 19](#): After login, enter user information when prompted to do so.
4. [“Updating the System” on page 21](#).
5. [“Installing Drivers and Configuring Driver Settings” on page 22](#).
6. Configuring [“Fault Recovery Settings” on page 26](#).

The installation is complete.

Before You Start

Before installing Microsoft® Windows Server® 2008, make sure of your hardware configuration including RAID configuration according to the User's Guide or other manuals of the server stored in ExpressBuilder.

Prerequisites for Installing Microsoft® Windows Server® 2008

To install Microsoft® Windows Server® 2008, you need the following:

- Microsoft® Windows Server® 2008 Standard /Microsoft® Windows Server® 2008 Enterprise Installation Guide (this manual).
- The Microsoft® Windows Server® 2008 installation medium ("Microsoft® Windows Server® 2008 DVD-ROM")
- Accessories provided with your server:
 - The ExpressBuilder DVD
 - The User's Guide, available on the ExpressBuilder.

 *Note: to access the User's guide, proceed as follows:*

- *Insert the ExpressBuilder DVD, click **Run autorun_menu.exe***
 - *Click **Read documents**,*
 - *In Documents for each model section, click the requested model.*
 - *In User's Guides section, click the version you need, and save it.*
-

Important Instructions

Before you install Microsoft® Windows Server® 2008, read this chapter carefully.

Windows Activation

Understanding Activation and Registration

Activation is mandatory and completely anonymous. It ensures that the product is not installed on more than the limited number of computers allowed in the software's end user license agreement.

Depending on your configuration, your Microsoft operating system may already have been factory-activated. If you are prompted to activate Microsoft® Windows Server® 2008, please do so by entering the physical product key that can be found on your Certificate of Authenticity (COA) label.

Registration is optional, and it ensures that you receive product support, product update information, and other benefits. Personal information (for example, «contact» information such as an email address) is required if you decide to register.

 *Note: To use the on-line registration process, an active Internet connection must be available.*

For more details, see [“Activating Windows”, page 28](#).

Caution

- Activate Microsoft® Windows Server® 2008 within 30 days after installation, or the system may be locked after the initial 30 days.
 - Use the Virtual Product Key to activate Microsoft® Windows Server® 2008 in a virtual operating system environment. You cannot use it to install Microsoft® Windows Server® 2008 on a physical server.
-

Supported Optional Boards

The ExpressBuilder DVD contains the drivers for the following optional boards:

NovaScale R410 E1

- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1) and equivalent
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1/5/6)
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (256 MB, RAID 0/1/5/6)
- Adaptec SCSI card 29320LPE

NovaScale T810 E1

- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1) and equivalent
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1/5/6)
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (256 MB, RAID 0/1/5/6)
- Adaptec SCSI card 29320LPE

NovaScale T830 E1

- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1) and equivalent
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1/5/6)
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (256 MB, RAID 0/1/5/6)
- Adaptec SCSI card 29320LPE

Novascale T840

- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1) and equivalent
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1/5/6)
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (256 MB, RAID 0/1/5/6)
- Adaptec SCSI Card 29320ALP
- Adaptec SCSI Card 29160LP

Novascale T840 E2

- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1) and equivalent
- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1/5/6)

- LSI Logic MegaRAID SAS 8708EM2 RAID Controller (256 MB, RAID 0/1/5/6)
- Adaptec SCSI Card 29320ALP

Reinstalling an Operating System in a Dynamic Disk

A basic disk that has been upgraded to a dynamic disk may contain an additional partition other than the partition where you reinstall the operating system. To reinstall the operating system in the dynamic disk without removing the old partition(s):

- Choose the partition where an old operating system was located.
- To format the partition, choose **Use the current File System**.

Installing on the Mirrored Volume

When re-installing the OS to a hard disk drive which has been upgraded to Dynamic Disk, only the simple dynamic volume is available for installation.

To install the OS on a volume that is mirrored using Disk Management, proceed as follows:

1. invalidate the mirroring
2. reset to the basic disk before the installation
3. validate the mirroring again after the installation.

 *Note: You can create, invalidate, or delete the mirror volume by using Disk Management in Computer Management.*

Magneto-Optical Drive

If you try to set the current file system to NTFS on your system with MO drives connected, you may fail to format the file system.

To format correctly, disconnect the MO drives from your system and repeat the installation procedure.

Tape Media

Remove all tapes from the tape drives before you install.

Additional Peripheral Devices (such as RDX)

Some peripheral devices need to be removed or disabled before starting setup. Refer to the instruction manual delivered with the peripheral device for pertinent information, and proceed accordingly.

BIOS Update

To install Microsoft® Windows Server® 2008, you may need to update your BIOS.

To check if your system needs the BIOS update, go to:

<http://support.bull.com>

For the update procedure, see Readme.txt available on the above website.

RAID Configuration

To use the hard disk drives in RAID configuration, configure the RAID system before installing Microsoft® Windows Server® 2008.

To use the RAID controller (LSI MegaRAID SAS PCI EXPRESS ROMB) embedded on the mother board, refer to "RAID System Configuration" in the User's Guide of the server.

To use the optional RAID controller, refer to the manual delivered with the controller.

System Partition Size

Use the following formula to calculate the total partition size required for Microsoft® Windows Server® 2008:

Microsoft® Windows Server® 2008 64-bit (x64) Edition

Required partition size = size required to install OS + paging file size + dump file size + application size

Size required to install OS = 11,600MB (Full Installation)
or = 4,100MB (Server Core Installation)

Paging file size (recommended) = Installed memory size x 1.5

Dump file size = Installed memory size + 300MB

Application size = Required size

Caution

- The above paging file size is recommended for collecting debug information (memory dump). A paging file size must be large enough to store dump files in the boot volume, or

the lack of virtual memory may result in a failure to collect debug information. Ensure that your system has a sufficient paging file size.

- Regardless of mounted memory size and the Write debug information (type of memory dump), the maximum size of the dump file is the mounted memory size + 300 MB".
 - To install additional applications, add a disk volume for the applications.
-

Example:

A partition size required for a system with an installed memory size of 512 MB and a full installation of the operating system:

$11,600\text{MB} + (512\text{MB} \times 1.5) + (512\text{MB} + 300\text{MB}) + \text{application size} = 13,180\text{MB} + \text{application size}$.

If the provided partition size is smaller than the sum of size required to install the OS and paging file size, expand the partition size or provide a larger disk. If your system does not have a sufficient dump file size, divide the required file space into multiple disks by performing the steps below:

1. Set the system partition to a sufficient size to install the OS and paging file.
2. See [“Fault Recovery Settings”, page 26](#) to write the debug information of the dump file into another disk.

If there is not enough disk space to write the debug information, add another disk for Dump file.

Microsoft® Windows Server® 2008 32-bit (x86) Edition

Required partition size = size required to install OS + paging file size + dump file size + application size

Size required to install OS = 6,300MB (Full Installation)
or = 2,200MB (Server Core Installation)

Paging file size (recommended) = Installed memory size x 1.5

Dump file size = Installed memory size + 300MB

Application size = Required size

Caution

- The above paging file size is recommended for collecting debug information (memory dump). A paging file with initial size must be large enough to save dump files in the boot vol-

ume, or the lack of virtual memory may result in a failure to collect debug information. Ensure that your system has a sufficient paging file size.

- The maximum paging file size allowed per partition is 4095 MB. If the value of the installed memory size x 1.5 exceeds 4095 MB, set the paging file size to 4095 MB.
- When the installed memory size exceeds 2GB, the maximum dump file size 2048MB + 300MB.
- To install additional applications, add a disk volume for the applications.

Example:

A partition size required for a system with an installed memory size of 512 MB and a full installation of the operating system:

$6,300\text{MB} + (512\text{MB} \times 1.5) + 512\text{MB} + 300\text{MB} + \text{application size} = 7,880\text{MB} + \text{application size}$.

If the partition where the operating system is installed is smaller than the sum of necessary size to install OS and paging file size", expand the partition size or provide a larger disk. If your system does not have a sufficient dump file size, divide the required file space into multiple disks by performing the steps below:

1. Set the partition size to the sum of size required to install OS and paging file size".
2. See [“Fault Recovery Settings”, page 26](#) to write the debug information of the dump file into another disk.

If there is not enough disk space to write the debug information, add another disk for Dump file.

BitLocker

If you use BitLocker, note the following:

- Before you install Microsoft® Windows Server® 2008, create the two partitions:
 - System partition for a loader
 - Boot partition for the operating system

 *Note: For more information, see the documentation in Microsoft TechNet: Windows BitLocker Drive Encryption Step-by-Step Guide.*

- Be sure to keep the recovery password secure. Do not keep it around a server running BitLocker.

 **Caution**

Without the recovery password, you cannot start the operating system and see the partition content encrypted by BitLocker. The recovery password may be needed when you start the operating system after performing the following:

- - Replace the motherboard
 - - Initialize the TPM
 - - Change the BIOS setting
-

- Microsoft® Windows Server® 2008 is not installed in the partition encrypted by BitLocker.

Installing Microsoft® Windows Server® 2008

This chapter provides the steps to install Microsoft® Windows Server® 2008.

1. Turn on your system.

Caution

To install Microsoft® Windows Server® 2008, you may need to update BIOS. To check if your system needs a BIOS update, go to: <http://support.bull.com>

2. Insert the ExpressBuilder DVD in your DVD-Rom drive.
3. Restart the system.

To restart the system, press **Ctrl + Alt + Del** or turn off the system once, and turn it on again.

Caution

When prompted to press any key to boot from CD or DVD, click **Enter** while the message is displayed. If the Windows installation screen (shown in step 4) does not appear, turn off the system, and turn it on again.

The DVD-ROM starts.

4. When prompted, check the language of your choice, and click **OK**.

 *Note : At this step, the chosen language is set up for installation menus only. The language of Microsoft® Windows Server® 2008 is linked to the version you are going to install on your computer.*

5. Select **Setup Windows**, and click **Express Setup for Windows**.
6. In the *ExpressSetup assistant* window, select the following options:
 - *Operating system to install*
 - *System partition to create*, if you need to create one

- *Display settings*
 - *Network identification*, if needed
 - *Network options*, if needed
 - *User information*
 - *Country settings*
 - *Computer's role*
7. Click **START Installation**, and click **OK**.
 8. When prompted to read the *Licence agreement*, take and read the document delivered with your computer, and click **Yes**.
 9. When prompted to *insert the CD-Rom* Microsoft® Windows Server® 2008, insert it, and click **OK**.
 10. In the *Windows Server 2008 assisant* window, select the Microsoft® Windows Server® 2008 version you want to install, click **Add**, and click **START**.

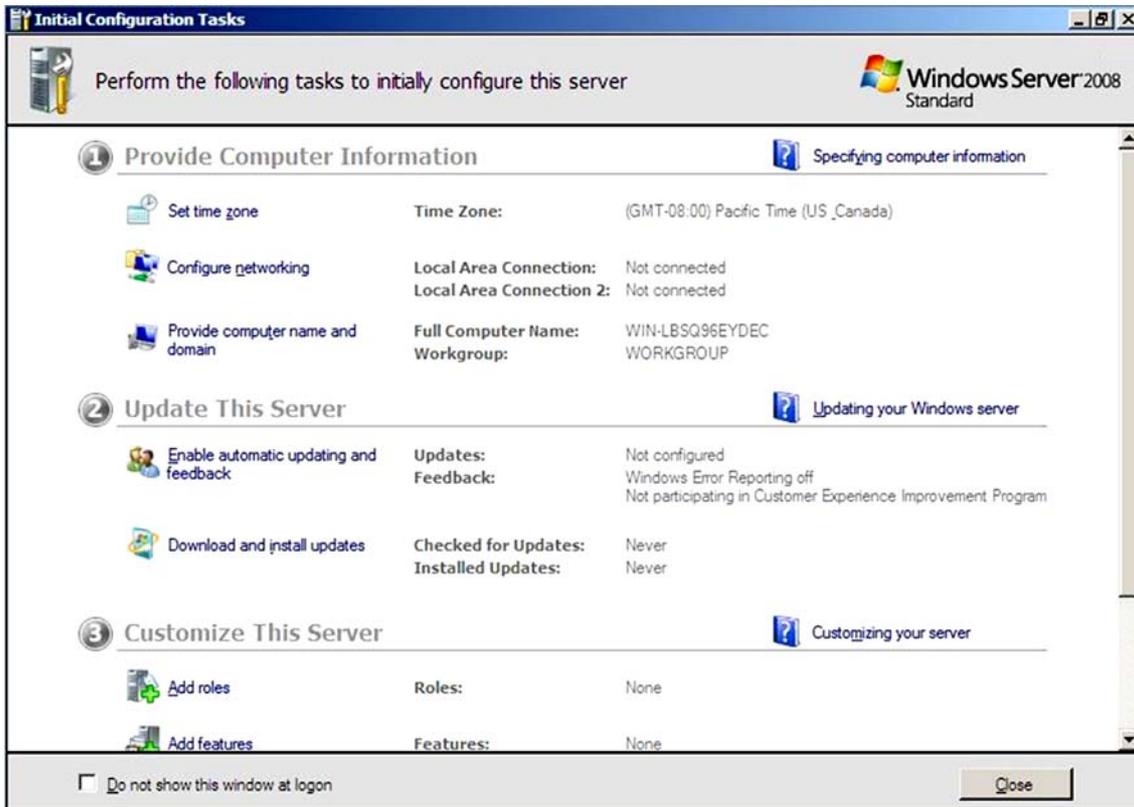
The installation starts.

If you have selected a full installation

- a. When prompted, press CTRL + ALT + DEL, to log on
- b. Click **Administrator**
- c. You will be prompted to set or change the password before you log on. Click **OK**.
- d. Change the password, and click .

 *Note: your password must be composed of 10 characters, containing lower cases, upper cases and one complex character.*

- e. Once the password has been changed, click **OK** to log on.
- f. In the **Initial Configuration Tasks** window, enter the relevant user information.

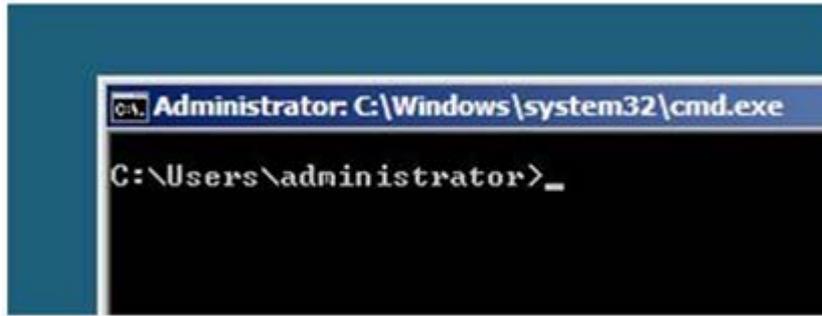


If you have selected a Server Core installation

- a. Once the Server Core installation of Microsoft® Windows Server® 2008 is complete, press **Ctrl + Alt + Del** to log on.
- b. Click **Other User**.
- c. In place of *User name*, enter *Administrator*.
- d. Keep the word *Password* as it is. Do not change it at this step.
- e. Click .
- f. When prompted to change the password, click **OK**.
- g. Keep the word *Password*, and in place of *New password*, enter your new password, enter it again in *Confirm Password*, and click .

 *Note: your password must be composed of 10 characters, containing lower cases, upper cases and one complex character.*

- h. Once the password has been changed, click **OK**.
- i. At the command prompt, enter user information.



 Note: For more information, refer to the Microsoft® Windows Server® 2008 Help.

11. See [“Updating the System”, page 21.](#)
12. See [“Installing Drivers and Configuring Driver Settings”, page 22.](#)
13. See [“Fault Recovery Settings”, page 26.](#)

The installation is complete.

Updating the System

To ensure normal system operation you should update your system using the following procedures.

Caution

You should update your system if you have:

- Changed the system configuration (Added or removed optional built-in devices: If you are prompted to restart the system after the system configuration has been changed, click **No**, and update the system.)
 - Recovered the system by using a recovery process
 - Restored the system by using a backup tool
-

Log on to the system using the administrator account or other account which is a member of the Administrators group.

1. Insert the ExpressBuilder disc into the optical device drive.
2. When the *AutoPlay* box appears, click **Run autorun_menu.exe**.
3. In the *Menu Items* box, select *Setup Windows*, and click **Update the system**.

 *Note: added or removed devices, listed in "Supported Optional Boards" on page 11, are automatically detected and installed.*

The driver installation starts.

4. Remove the ExpressBuilder disc from the optical device drive.
5. Restart your computer.

The update is complete.

Installing Drivers and Configuring Driver Settings

This chapter provides the procedures for installing the drivers for the optional boards supported by the servers.

For other options that are not described in this chapter, see the User's Guide attached to these options.

LAN Driver and PROSet

The LAN driver and PROSet are installed automatically during the system update in the previous section.

 *Note: To change the LAN driver and PROSet settings, log on to the system from a local console using an administrator account. Remotely changing the settings by using the operating system's remote desktop feature is not supported.*

Using the Intel® Pro/1000 Server Adapter after a System Update

To use the Intel® Pro/1000 Server Adapter after updating your system, you must first uninstall the LAN driver and PROSet, and update your system while the Intel® Pro/1000 Server Adapter connected.

For a server running a full installation

1. Remove a team of network adapters.

Before you remove, note down the current settings (e.g. IP addresses) of the standard and optional adapters teamed for network redundancy. Configure the settings after reinstalling the LAN driver and PROSet.

To remove the team, see [“Adapter Fault Tolerance \(AFT\)/ Adaptive Load Balancing \(ALB\) ”, page 23](#).

2. In **Control Panel**, click **Uninstall Program**.
3. Double-click **Intel(R) Network Connections 12.4.38.0**.
Intel(R) Network Connections (RemoveOptions) appears.
4. In **Remove Options**, click **Remove**.
Intel(R) Network Connections - Remove Software appears.
5. Select **Yes**.
The removal starts automatically.

6. When **InstallShield Wizard complete** appears. Click **Finish**.
Restart the system.

For a server running a Server Core installation

1. Note down the current settings (e.g. IP addresses) of the standard and optional adapters teamed for network redundancy before uninstalling LAN driver. Configure the settings after reinstalling the LAN driver.
2. At a command prompt, run DxSetup.EXE available on the ExpressBuilder:
 - Microsoft® Windows Server® 2008 64-bit (x64) Editions:
\\DRIVERS\LAN\APPS\PROSETDX\VISTA32\DxSetup.exe
 - Microsoft® Windows Server® 2008 32-bit (x86) Editions:
\\DRIVERS\LAN\APPS\PROSETDX\VISTAX64\DxSetup.exe
3. In **Intel(R) Network Connections - InstallShield Wizard**, click **Next**.
4. Select **Remove**, and click **Next**.
5. Click **Remove**.
Removal starts automatically.
6. When **InstallShield Wizard Completed** appears, click **Finish**.
Restart the system.

Adapter Fault Tolerance (AFT)/ Adaptive Load Balancing (ALB)

Adapter Fault Tolerance (AFT) provides network adapter redundancy by creating a team of adapters. If any adapter fails, another in the team automatically takes over.

Adaptive Load Balancing (ALB) improves the overall network throughput by equally balancing data traffic among a team of adapters.

You can configure AFT and ALB using the standard and optional network adapters.

Caution

- Adapter Fault Tolerance (AFT) and Adaptive Load Balancing (ALB) are not available when Server Core is in use.
 - Be sure to configure AFT and ALB after you boot the system following the driver installation.
-

Creating a Team

1. Open **Control Panel**. Under **System and Maintenance**, click **Open Device Manager** to start **Device Manager**.

2. Open **Network adapters**, and double-click **Intel(R)~**.
3. Select the **Teaming** tab, select **Team adapter with other adapters**, and click **New Team...**
4. Type a team name, and click **Next**.
5. Confirm the adapters to include in the team, and click **Next**.
6. Select **Adapter Fault Tolerance** or **Adaptive Load Balancing** as a team mode, and click **Next**.
7. Click **Finish**.
8. In **Device Manager**, double-click a teamed adapter to see its property. Select the **Settings** tab, and click **Modify Team...**
9. To set an adapter to primary, select the adapter, and click **Set Primary**.
To set an adapter to secondary, select the adapter, and click **Set Secondary**.
After both the primary and the secondary adapters are selected, click **OK** to close the screen.
To confirm the team settings:
Open the team property, and select the **Settings** tab. The setting for each adapter is shown in **Adapters in team**.
10. In the **Settings** tab, click **Test Switch....** When the switch test screen appears, click **Run Test**.
When **No problems ~** appears, the test is complete.
Restart the system.

Removing a Team

1. Open **Control Panel**. Under **System and Maintenance**, click **Open Device Manager** to start **Device Manager**.
2. Open **Network adapters**, and double-click a teamed adapter.
3. Select the **Settings** tab, and click **Remove Team**.
4. When the **Team Settings** pop-up box appears, click **Yes**.
5. Under **Device Manager**, go to **Network adapters**. Make sure that no adapter is teamed.
Restart the system.

Caution

- Adapter Fault Tolerance (AFT) and Adaptive Load Balancing (ALB) are not available when ServerCore is in use.
- Be sure to configure AFT and ALB after you boot the system following the driver installation.
- To use AFT, we recommend you to connect the network adapters to the same L2 switching hub. You may use different switching hubs, but cascade them over the same network.

- To configure ALB, connect the network adapters only to the L2 switching hub.
 - To replace a motherboard or an optional network card, you must first remove the team and create it again after the replacement.
-

Network Driver

Changing a link speed

Follow the steps below to set a link speed and duplex mode. To set an IP address, make sure that the Internet Protocol Version (TCP/IP) box is checked.

1. Open **Control Panel**. Under **System and Maintenance**, click **Open Device Manager** to start **Device Manager**.
2. Open **Network adapters**, and double-click **Intel(R)~**.
3. Click **Link Speed**, and set the same values for **Speed and Duplex** as those for the switching hubs.
4. In the **Property** dialog box, click **OK**.

SCSI Controller

Adaptec SCSI Card 29320ALP

Adaptec SCSI Card 29160LP

Adaptec SCSI card 29320LPE

You do not need to install the driver manually, it is automatically installed by Windows Plug-and-Play.

Fault Recovery Settings

This chapter provides the procedures for configuring fault recovery settings.

Network Monitor Setup

Microsoft Network Monitor allows you to examine and troubleshoot network failures.

 *Note: Microsoft® Windows Server® 2008 does not provide Network Monitor. To use Network Monitor on Microsoft® Windows Server® 2008, install Network Monitor by following the steps below.*

1. Download Microsoft Network Monitor at:
<http://support.microsoft.com/kb/933741/en-us>
2. Run the downloaded file to start the installer.
Follow the on-screen instructions to install Network Monitor.

 *Note: If a Security Alert appears, click **Run**. Select Complete as a setup format.*

Network Monitor has been installed.

 *Note: To remove Network Monitor, go to Programs and Features.*

Network Trace Capture

1. In the **Start** menu, start **Microsoft Network Monitor**.
2. In **Start Page**, select **Create a new capture tab...** or select **New** in the **File** menu, and click **Capture...**
A new tab for capturing a network trace is created.
3. In the **Select Networks** window, select a network whose trace is captured.
4. In the **Capture** menu, click **Start** to start capturing a network trace.
5. In the **Capture** menu, click **Stop** to stop capturing a network trace.
6. In the **File** menu, select **Save As...**
The **Save As** window appears. Select **All captured frames** from **Frame selection**, and enter the names of a folder and a file.

 *Note: The default folder name is:*
C:\Users*<User name>*\Documents\Network Monitor
3\Captures

7. Click **Save** to create the file in the folder selected in step 6.

Activating Windows

To continue using the Windows features, you must activate Windows on your system. Make sure that you have already activated Windows. If not, follow the procedure below to activate.

For a server running a full installation

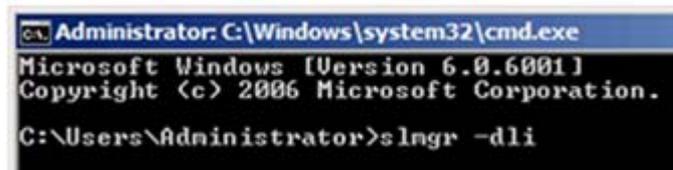
1. Go to the **Start** menu, and in the **Run** dialog box, type *slui*, and click **OK**.
2. Follow the on-screen instructions.

 **Note:**

- *Windows may have been factory-activated. In this case, stop the process when prompted to do so.*
 - *The Product Key can be found on the Certificate of Authenticity (COA) label.*
-

For a server running a Server Core installation

1. At a command prompt, type **slmgr -dli**, and click **OK**.

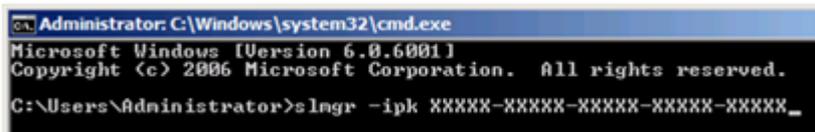


```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation.
C:\Users\Administrator>slmgr -dli
```

 **Note:**

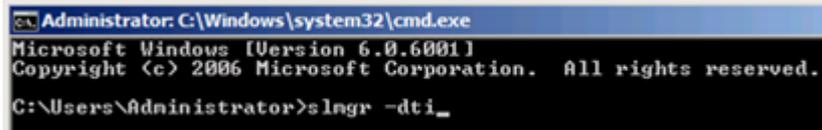
- *Windows may have been factory-activated. In this case, stop the process when prompted to do so.*
 - *The Product Key can be found on the Certificate of Authenticity (COA) label.*
-

2. Type **slmgr -ipk <PID>**, and click **OK**.
*PID is your product key on the COA label.



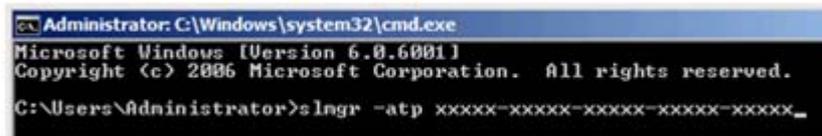
```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\Administrator>slmgr -ipk XXXXX-XXXXX-XXXXX-XXXXX-XXXXX_
```

3. Type **slmgr -dti** to obtain an installation ID for Windows activation, and click **OK**.



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\Administrator>slmgr -dti_
```

4. See **%systemroot%\system32\slui\phone.inf** for the phone number of the Microsoft customer service.
5. Call the above number, inform your installation ID gained in step 3, and receive a confirmation ID.
6. At a command prompt, type **slmgr -atp <CID>**, and click **OK**.
*CID is the confirmation ID that you received from the call center.



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\Administrator>slmgr -atp xxxxx-xxxxx-xxxxx-xxxxx-xxxxx_
```

The Windows activation is complete.

Troubleshooting

This chapter provides instructions to troubleshoot system problems that you might encounter when using Microsoft® Windows Server® 2008. If you are experiencing the same problem as listed in this chapter, perform the resolution first before you contact your sales agent. If your system still does not operate normally, provide your sales agent with the error messages on the screen.

This chapter only lists the events that might occur in Microsoft® Windows Server® 2008. For other events, see your User's Guides.

The following system events are logged when Microsoft® Windows Server® 2008 is installed.

Event ID:	134
Source:	Microsoft-Windows-Time-Service
Level:	Warning
Description:	NtpClient was unable to set a manual peer to use as a time source because of DNS resolution error on 'time.windows.com,0x9'. NtpClient will try again in 15 minutes and double the reattempt interval thereafter. The error was: No such host is known. (0x80072AF9)
Event ID:	63
Source:	PlugPlayManager
Level:	Warning
Description:	The service 'ShellHWDetection' may not have unregistered for device event notifications before it was stopped.
Event ID:	7000
Source:	Service Control Manager
Level:	Error
Description:	The Parallel port driver service failed to start due to the following error: The service cannot be started, either because it is disabled or because it has no enabled devices associated with it.

Event ID:	15016
Source:	Microsoft-Windows-Http
Level:	Error
Description:	Unable to initialize the security package Kerberos for server sideauthentication. The data field contains the error number.
Resolution:	These events do not affect system operation. Ignore these messages.

The following application events are logged when Microsoft® Windows Server® 2008 is installed.

Event ID:	63
Source:	Microsoft-Windows-WMI
Level:	Warning
Description:	<p>A provider, Ncs2, has been registered in the Windows Management Instrumentation namespace Root\cimv2 to use the LocalSystem account. This account is privileged and the provider may cause a security violation if it does not correctly impersonate user requests.</p> <p>A provider, IntelEthernetDiag, has been registered in the Windows Management Instrumentation namespace Root\CIMv2 to use the LocalSystem account. This account is privileged and the provider may cause a security violation if it does not correctly impersonate user requests.</p> <p>A provider, WmiPerfClass, has been registered in the Windows Management Instrumentation namespace root\cimv2 to use the LocalSystem account. This account is privileged and the provider may cause a security violation if it does not correctly impersonate user requests.</p>
Resolution:	These events do not affect system operation. Ignore these messages.

The following errors or warnings are logged when I start the system.

Event ID:	11
Source:	IANSMiniport
Level:	Warning
Description:	Adapter link down: Intel(R) ~
Event ID:	13
Source:	IANSMiniport
Level:	Warning
Description:	Intel(R) ~ has been deactivated from the team.
Event ID:	16
Source:	IANSMiniport
Level:	Warning
Description:	[Team Name]: The last adapter has lost link. Team network connection has been lost.
Resolution:	If you have created a team of network adapters, the above events may be logged when you start the system. These events do not affect the LAN driver operation. Ignore these messages.

The following system event is logged when Microsoft® Windows Server® 2008 is installed. The memory mirroring or online spare memory feature is enabled in NEC

Event ID:	10
Source:	VDS Dynamic Provider
Description:	The provider failed while storing notifications from the driver.The Virtual Disk Service should be restarted. hr=80042505
Resolution:	Go to the Microsoft website: http://support.microsoft.com/kb/948275/en-us/

BULL NovaScale R480 E1, and the available memory capacity has been changed. However, the memory information shown in **System** and **System Information** on Microsoft® Windows Server® 2008 do not change.

The Memory (RAM) shows the total capacity of mounted memory when you select **Start - Control Panel - System**.

Similarly, the Installed Physical Memory (RAM) shows the total capacity of mounted memory when you select **Start - All Program - Accessories - System Tools - System Information**.

To know the physical memory currently available on the system, select **Windows Task Manager - Performance - Physical Memory(MB) - Total**.

Upgrading to Microsoft® Windows Server® 2008

This chapter describes guidelines for upgrading Microsoft® Windows Server® 2003 to Microsoft® Windows Server® 2008.

Overview

The Microsoft® Windows Server® 2008 upgrade flow is shown below. Be sure to remove the installed graphics accelerator driver and PROSet before you upgrade.

1. [“Before You Upgrade” on page 35.](#)
2. See [“Important Instructions” on page 35.](#)
3. See [“Before You Start” on page 9](#) and [“Important Instructions” on page 10.](#)
4. Remove the installed [“Graphic Accelerator Driver” on page 36.](#)
5. Remove [“PROSet” on page 36.](#)
6. Install and setup [“BIOS Update” on page 13.](#)
7. Start [“Upgrading Windows” on page 37.](#)
8. [“On the Server Manager screen, confirm your user settings.” on page 38.](#)
9. See [“Updating the System” on page 21.](#)
10. See [“Installing Drivers and Configuring Driver Settings” on page 22.](#)
11. See [“Installing Drivers after the Upgrade” on page 39.](#)
12. Configure [“Fault Recovery Settings” on page 26.](#)

 Note: the instructions below are given with a **Start menu** configuration. To check your configuration proceed as follows:

- Right click on the task bar ,and click **Properties**
 - In the Start Menu tab, check **Start Menu**, and click **OK**.
-

Before You Upgrade

Important Instructions

- Microsoft® Windows Server® 2003 requires Service Pack 1 or later.
- Upgrading from Microsoft® Windows Server® 2003 to Microsoft® Windows Server® 2008 is not recommended.
- Microsoft® Windows Server® 2008 supports the following upgrade paths:
 - For Microsoft® Windows Server® 2003 Standard x64 Edition:
 - Microsoft® Windows Server® 2008 Standard 64-bit (x64) Edition
 - Microsoft® Windows Server® 2008 Enterprise 64-bit (x64) Edition
 - For Microsoft® Windows Server® 2003 Enterprise x64 Edition:
 - Microsoft® Windows Server® 2008 Enterprise 64-bit(x64)Edition
 - For Microsoft® Windows Server® 2003 Standard Edition:
 - Microsoft® Windows Server® 2008 Standard 32-bit(x86)Edition
 - Microsoft® Windows Server® 2008 Enterprise 32-bit(x86)Edition
 - For Microsoft® Windows Server® 2003 Enterprise Edition:
 - Microsoft® Windows Server® 2008 Enterprise 32-bit(x86)Edition
- To use Microsoft® Windows Server® 2008, you must first perform a backup of necessary user information by following the instructions in [“Installing Microsoft® Windows Server® 2008” on page 17](#).
- Upgrading between different architectures i.e. upgrading from Microsoft® Windows Server® 2008 32-bit (x86) Edition to Microsoft® Windows Server® 2008 64-bit (x64) Edition and vice versa is not supported.
- Upgrading from a full installation of Microsoft® Windows Server® 2008 to a Server Core installation is not supported.
- The system partition must have sufficient capacity available to install the system. See *“System Partition Size” on page 13*.

Graphic Accelerator Driver

To upgrade from Microsoft® Windows Server® 2003 to Microsoft® Windows Server® 2008 on a server in use, you must first uninstall the graphics accelerator driver.

To uninstall the driver:

1. Navigate to *Control Panel*, and in *Programs* click **uninstall a Program**.
2. Select *Matrox Graphics Software (remove only)* from the program list, and click **Uninstall/Change**.
3. Follow the on-screen messages to uninstall the driver.
4. Restart the system.

PROSet

To upgrade from Microsoft® Windows Server® 2003 to Microsoft® Windows Server® 2008 on a server with PROSet installed, you must first uninstall PROSet.

To uninstall PROSet:

1. Remove the network adapters team.
First note down the current settings (e.g. IP addresses) of the standard and optional adapters teamed for network redundancy. You will have to reconfigure the team settings after the upgrade.
To remove the team, see [“Adapter Fault Tolerance \(AFT\)/ Adaptive Load Balancing \(ALB\)” on page 23](#).
2. Navigate to *Control Panel*, in *Programs* click **Uninstall a program**.
3. Select *Intel (R) PRO Network Connections xx.xx.xx.xx* from the program list, and click **Uninstall/Change**.
*xx.xx.xx.xx is a version of PROSet and varies depending on servers.
4. Click **Remove**, click **Yes**, then click **Finish**.
5. Follow the on-screen messages to uninstall PROSet.
6. Restart the system.

Upgrading Windows

This section provides the procedure for upgrading from Microsoft® Windows Server® 2003 32-bit (x86) to Microsoft® Windows Server® 2008 32-bit (x86) Edition.

Caution

Before you upgrade, you must first uninstall the graphics accelerator driver and PROSet.

1. When Microsoft® Windows Server® 2003 is running, insert the Microsoft® Windows Server® 2008 DVD-ROM into the optical disk drive.
2. Click  when prompted to *Install now*.
3. Choose to download the latest update program, or proceed with the one on the Microsoft® Windows Server® 2008 DVD-ROM.
4. Enter your product key, and click **Next**.
5. Select the Windows edition you wish to install, and click **Next**.

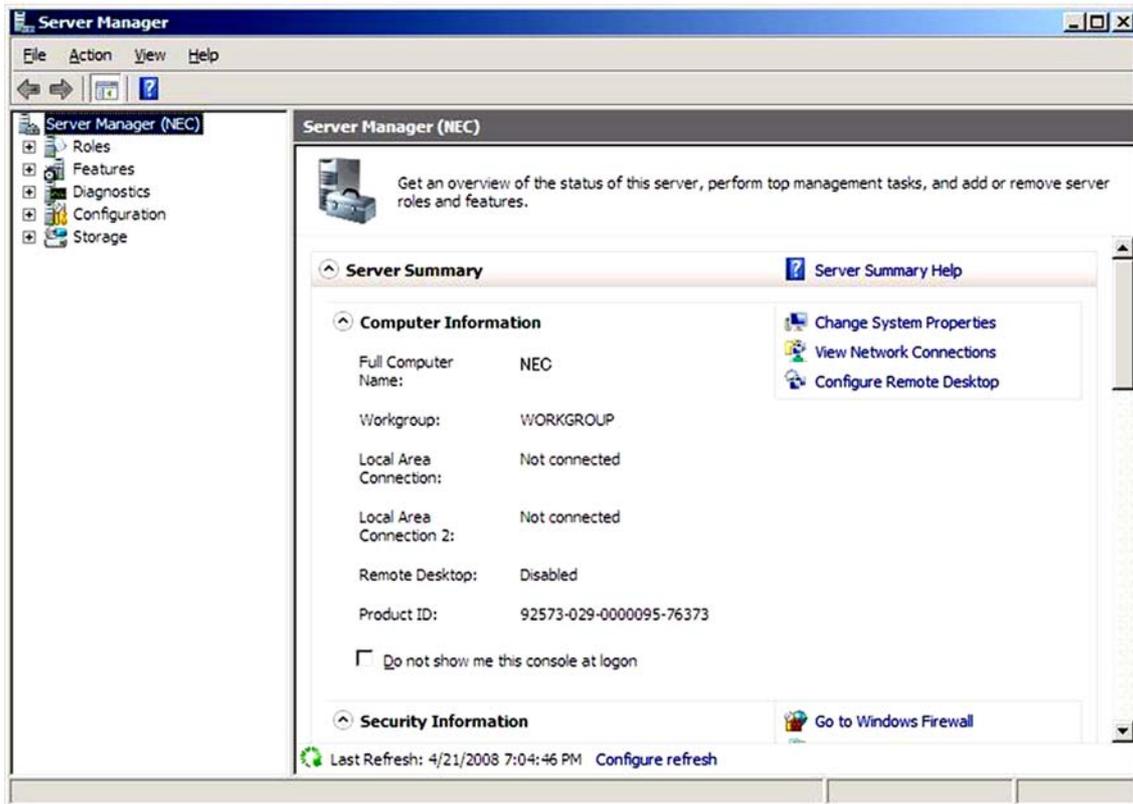
Caution

Select the same edition as your previous Microsoft® Windows Server® 2003. For more details, see [“Before You Upgrade”, page 35](#).

6. Read the license terms carefully. If you agree, check **I accept the license terms**, and click **Next**.
7. Select the **Upgrade** type of installation.
8. Read the Compatibility Report, and click **Next**.
9. The upgrade process starts.
10. When prompted to do so, log on to the system.

If you had set a password in Microsoft® Windows Server® 2003, enter the same password, and click .

11. On the *Server Manager* screen, confirm your user settings.



 Note: If the message **Ask me again later** appears. Click **Cancel**.

12. Update your system. See [“Updating the System”, page 21](#).
 13. Install the drivers. See [“Installing Drivers and Configuring Driver Settings”, page 22](#).
 14. Follow the instructions in [“Installing Drivers after the Upgrade” on page 39](#).
 15. Follow the instructions in [“Fault Recovery Settings” on page 26](#).
- The upgrade is complete.

Installing Drivers after the Upgrade

This section provides the procedures for installing the driver(s) for optional controller(s) after the upgrade.

Caution

You may need to install multiple drivers, depending on your environment.

Installing a driver for the RAID Controller

LSI Logic MegaRAID SAS 8708EM2 RAID Controller

To install a driver for this controller, see “Updating the System” on page 21.

Installing a driver for the SCSI controller

Adaptec SCSI card 29320LPE / 29320ALP

To install a driver for this controller, see “Updating the System” on page 21.

*Installing a SCSI Controller**

Adaptec SCSI Card 29160LP

You do not need to install the driver manually, it is automatically installed by Windows Plug-and-Play.

Installing Microsoft® Windows Server® 2008 Without Using Express Setup

This section describes the installation of Microsoft® Windows Server® 2008 without using the Express Setup tool.

Prerequisites for Installing Microsoft® Windows Server® 2008

To install Microsoft® Windows Server® 2008, you need the following:

- Microsoft® Windows Server® 2008 Standard /Microsoft® Windows Server® 2008 Enterprise Installation Guide (this manual).
- The Microsoft® Windows Server® 2008 installation medium ("Microsoft® Windows Server® 2008 DVD-ROM")
- Accessories provided with your server:
 - The ExpressBuilder DVD
 - The User's Guide, available on the ExpressBuilder.

 *Note: to access the User's guide, proceed as follows:*

- *Insert the ExpressBuilder DVD, click **Run autorun_menu.exe***
 - *Click **Read documents**,*
 - *In Documents for each model section, click the requested model.*
 - *In User's Guides section, click the version you need, and save it.*
-

Installing Microsoft® Windows Server® 2008

1. Read and follow the instructions provided in [“Important Instructions” on page 10](#).
2. Insert the Microsoft® Windows Server® 2008 DVD-ROM into your DVD-ROM drive.
3. Restart the system.
To restart the system, press **Ctrl + Alt + Del** or turn off the system once, and turn it on again.

Caution

When prompted to press any key to boot from CD or DVD, click **Enter** while the message is displayed. If the message “Windows is loading files does not appear, turn off the system, and turn it on again.

The DVD-ROM starts.

4. Select the *Language to install*, the *Time and currency format*, and the *Keyboard or input method* from the drop-down lists, and click **Next**.
5. Click the **Install now** button.
The installation starts.
6. Click on the edition of the Windows operating system that you want to install, and click **Next**.
The list is dynamically generated based on the Product Key.
7. Read the license terms carefully. If you agree, check *I accept the license terms*, and click **Next**.
8. Click **Custom (Advanced)**. The Upgrade installation is not available at this time.
9. The “Where do you want to install Windows?” screen is displayed.
If you are using any of the following devices, go to step 10. If not, go to step 12.
 - LSI Logic MegaRAID SAS 8708EM2 RAID Controller (128 MB, RAID 0/1) and equivalent
 - LSI Logic MegaRAID SAS PCI Express ROMB, on the mother board
 - LSI Logic MegaRAID SAS 8708EM2 RAID Controller
10. Insert the ExpressBuilder DVD into your optical disc drive.
11. Click **Load Driver**, and click **Browse**.
The folder reference dialog box appears. Select the path corresponding to your optical disc drive, and browse to the directory including the drivers relevant to your system.

12. Select the disk where the installation partition will be created, and click **Drive options (advanced)**.

 *Note: If the partition has already been created, go to step 15.*

13. Click **New**, enter a partition size, and click **Apply**.
14. Select the partition created in step 13, and click **Format**.
15. Select the partition created, and click **Next**.

The installation starts automatically.

 *Note: Please wait until the installation is complete, do not shutdown or press any key on your system. The system may automatically reboot several times during the process.*

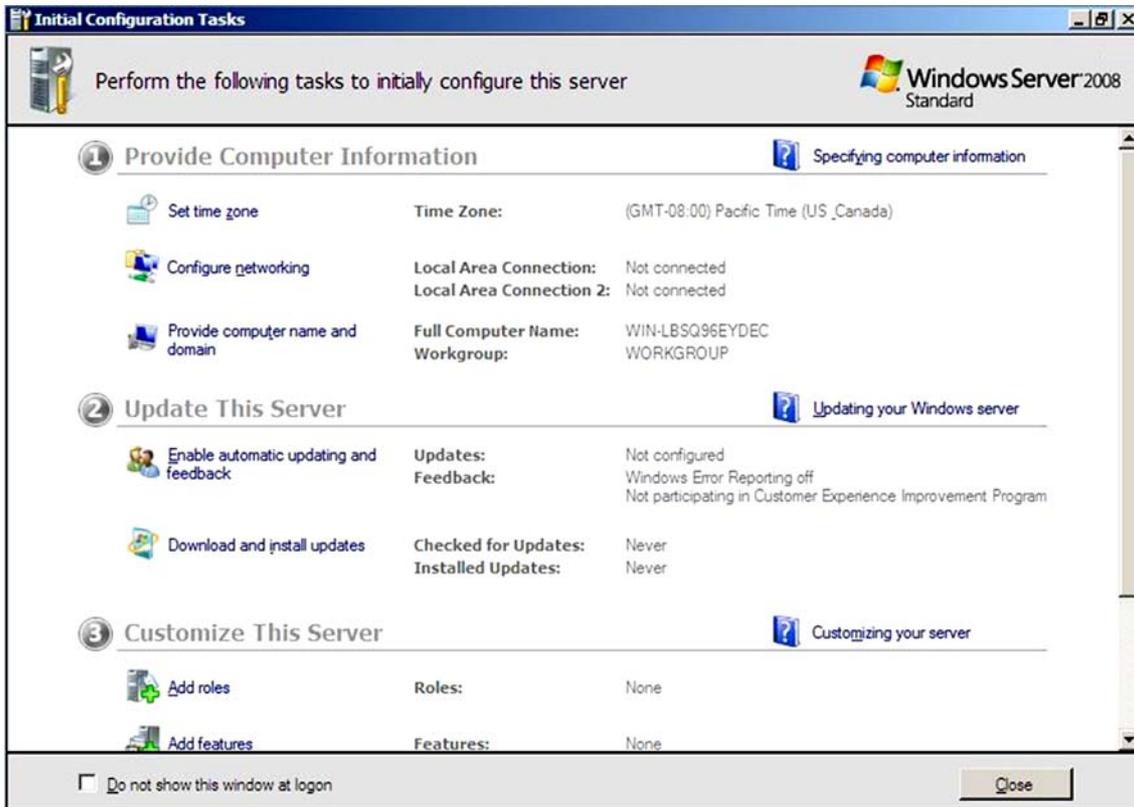
16. When prompted to do so, log on to the system. The steps vary depending on the edition you selected in step 6.

If you have selected a full installation

- a. You will be prompted to set or change the password before you log on. Click **OK**.
- b. Change the password, and click .

 *Note: your password must be composed of 10 characters, containing lower cases, upper cases and one complex character.*

- c. Once the password has been changed, click **OK** to log on.
- d. In the **Initial Configuration Tasks** window, enter the relevant user information.

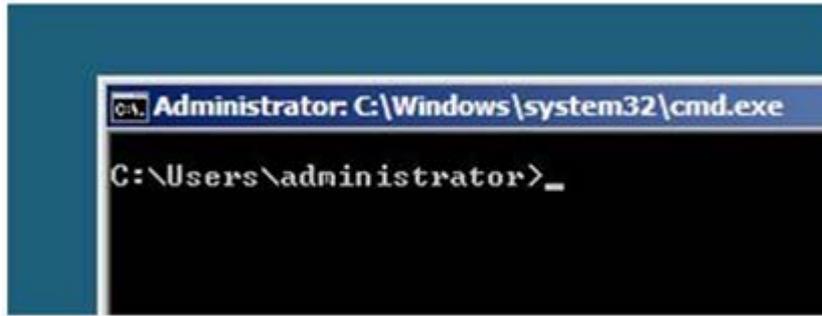


If you have selected a Server Core installation

- a. Once the Server Core installation of Microsoft® Windows Server® 2008 is complete, press **Ctrl + Alt + Del** to log on.
- b. Click **Other User**.
- c. In place of *User name*, enter *Administrator*.
- d. Keep the word *Password* as it is. Do not change it at this step.
- e. Click .
- f. When prompted to change the password, click **OK**.
- g. Keep the word *Password*, and in place of *New password*, enter your new password, enter it again in *Confirm Password*, and click .

 *Note: your password must be composed of 10 characters, containing lower cases, upper cases and one complex character.*

- h. Once the password has been changed, click **OK**.
- i. At the command prompt, enter user information.



 Note: For more information, refer to the Microsoft® Windows Server® 2008 Help.

17. See [“Updating the System”, page 21](#).
18. See [“Installing Drivers and Configuring Driver Settings”, page 22](#).
19. See [“Fault Recovery Settings”, page 26](#).

The installation is complete.

Technical publication remarks form

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Entreprise/Standard Installation Guide (rev 2.1)

Reference: 86 A1 47FA 02

Date: June 2009

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