NEC

Microsoft®
Windows Server® 2008 R2 Standard/
Microsoft®
Windows Server® 2008 R2 Enterprise

Installation Guide

for NEC Express5800/B120a, B120a-d

PROPRIETARY NOTICE AND LIABILITY DISCLAIMER

Contents

Introduction

This document provides step-by-step guidance for installing Microsoft® Windows Server® 2008 R2 Standard Edition and Microsoft® Windows Server® 2008 R2 Enterprise Edition ("Windows Server 2008 R2") on the NEC Express5800/B120a and B120a-d servers.

Before you install Windows Server 2008 R2, read this document carefully.

<Windows Server 2008 R2>

■ Microsoft® Windows Server® 2008 R2 Standard
■ Microsoft® Windows Server® 2008 R2 Enterprise

NOTE: Windows Server 2008 R2 has 64-bit(x64) Edition only

Upgrade Installation

It is not recommended to perform inplace upgrade from Windows Server 2003 or Windows Server 2008 to Windows Server 2008 R2, because in some cases files and registry are overwritten unexpectedly.

If you want to use Windows Server 2008 R2, please read this manual and back up necessary data prior to the installation..

Optical Disk Drives

Throughout this manual, optical disk drives mean:

1. CD-R/RW with DVD-ROM drive
2. DVD-ROM drive
3. DVD Super MULTI drive
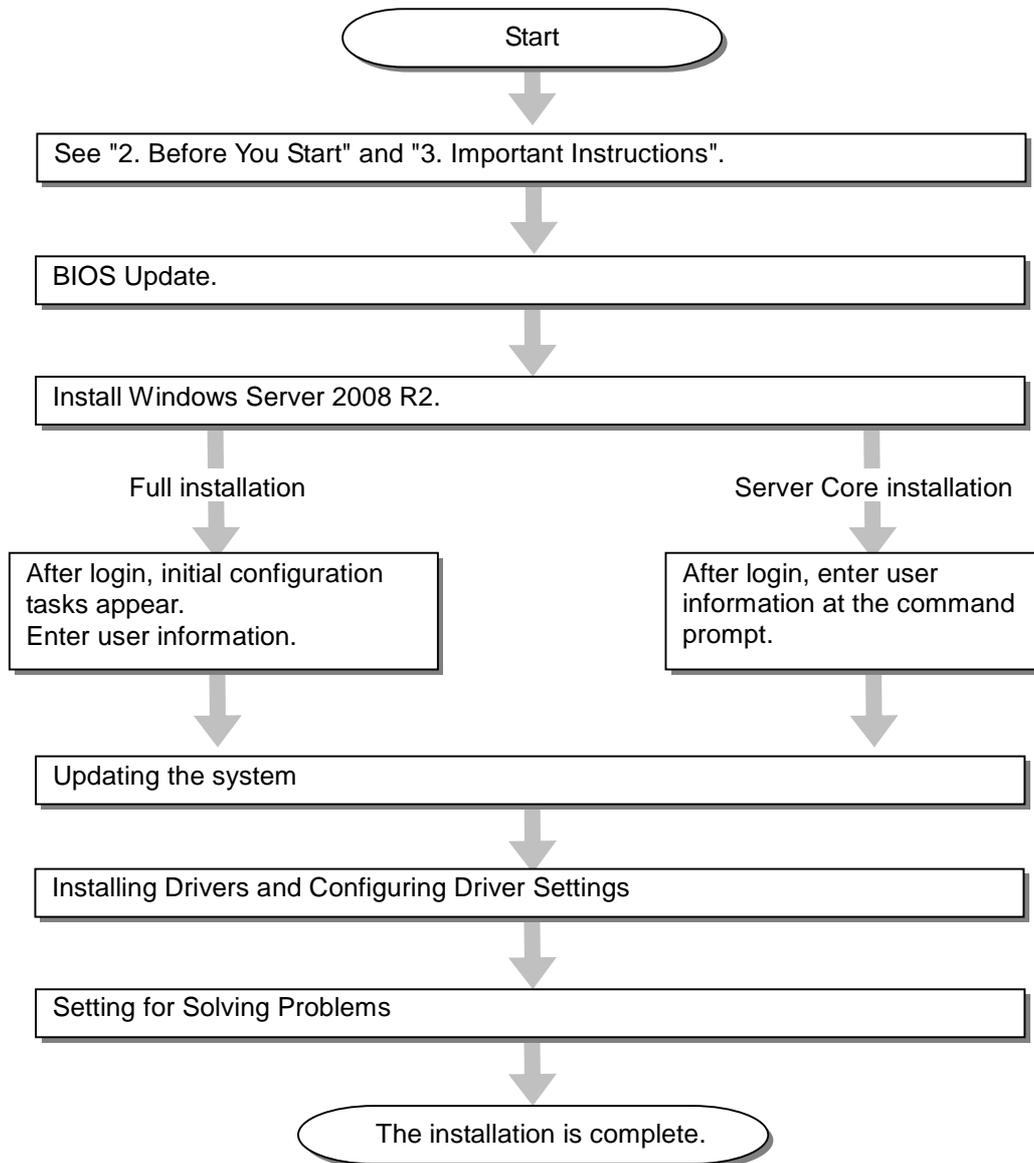4. DVD-Combo drive
5. DVD-RAM drive

Text Conventions

The following conventions are used throughout this manual.

IMPORTANT: Denotes important instructions that require your attention

NOTE: Denotes helpful information

1. Overview

The Windows Server 2008 R2 installation flow is provided below. Be sure to select "clean installation" when you install Windows Server 2008 R2 on your system.

```
                            ┌─────────────────┐
                            │      Start      │
                            └────────┬────────┘
                                     ▼
    ┌────────────────────────────────────────────────────────────┐
    │ See "2. Before You Start" and "3. Important Instructions".   │
    └────────────────────────────────┬───────────────────────────┘
                                     ▼
    ┌────────────────────────────────────────────────────────────┐
    │ BIOS Update.                                                 │
    └────────────────────────────────┬───────────────────────────┘
                                     ▼
    ┌────────────────────────────────────────────────────────────┐
    │ Install Windows Server 2008 R2.                              │
    └──────────────┬─────────────────────────────┬───────────────┘
          Full installation              Server Core installation
                   ▼                              ▼
    ┌──────────────────────────┐       ┌──────────────────────────┐
    │ After login, initial     │       │ After login, enter user  │
    │ configuration            │       │ information at the command│
    │ tasks appear.            │       │ prompt.                   │
    │ Enter user information.   │       │                          │
    └──────────────┬───────────┘       └────────────┬─────────────┘
                   ▼                                 ▼
    ┌────────────────────────────────────────────────────────────┐
    │ Updating the system                                          │
    └────────────────────────────────┬───────────────────────────┘
                                     ▼
    ┌────────────────────────────────────────────────────────────┐
    │ Installing Drivers and Configuring Driver Settings           │
    └────────────────────────────────┬───────────────────────────┘
                                     ▼
    ┌────────────────────────────────────────────────────────────┐
    │ Setting for Solving Problems                                 │
    └────────────────────────────────┬───────────────────────────┘
                                     ▼
                            ┌─────────────────────────┐
                            │ The installation is     │
                            │ complete.               │
                            └─────────────────────────┘
```

If you need to install application programs including NEC ESMPRO Manger or Agent, install them according to the relevant Installation Guide after completion of OS installation.

2. Before You Start

Before installing Windows Server 2008 R2, make sure of your hardware configuration including RAID configuration according to the User's Guide or other manuals of the server stored in NEC EXPRESSBUILDER DVD.

Prerequisites for Installing Windows Server 2008 R2

- The Windows Server 2008 R2 Driver Set ("Driver Set") for the NEC Express5800/B120a, B120a-d , R120a-1, R120a-2 [WS2008R2.10-001.01]
  * To download, see the section below on this page.

- A removable medium (e.g., a CD-R disk) to save the Driver Set

- Microsoft® Windows Server® 2008 R2 Standard /Microsoft® Windows Server® 2008 R2 Enterprise Installation Guide for NEC Express5800/B120a, B120a-d (this manual)

- The Windows Server 2008 R2 installation media ("Windows Server 2008 R2 DVD-ROM")

- Accessories provided with your NEC Express5800 series server

  - The NEC EXPRESSBUILDER CD/DVD

  - The User's Guide
    (Start the NEC EXPRESSBUILDER DVD, and open **Online Document** or → **Read Document** on the menu.)

Downloading a Driver Set

Follow the steps below to download the Driver Set appropriate for your system.

1. Download the Driver Set at: http://www.nec.com/express/..

2. Unzip the downloaded Driver Set to a temporary folder (e.g., C:\TEMP) in your disk drive.

   > **NOTE:** The name of the folder to save the Driver Set may not include a blank space.

3. Copy the entire winnt folder created in step 2 to your storage media. Copy it to a folder under the root directory.

   > **NOTE:** Use the writing software provided as the OS standard feature or other software conforming to Orange Book standards so that Windows can access the folder.
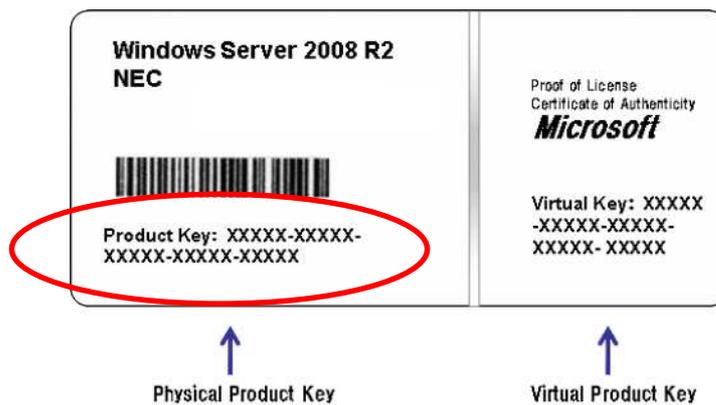
4. After the winnt folder has been copied to your media, delete the temporary folder and all the unzipped files in it.

3.   Important Instructions

Before you install Windows Server 2008 R2, read this chapter carefully.

Windows Activation

To activate Windows Server 2008 R2, enter the product key (Physical Product key) on your Certificate of Authenticity (COA) label.

For more details, see "Activating Windows".

> **IMPORTANT:**
>
> ■ Activate Windows Server 2008 R2 within 30 days after installation, or the system may be locked after the initial 30 days.
>
> ■ Use the Virtual Product Key to activate Windows Server 2008 R2 in a virtual operating system environment. You cannot use it to install Windows Server 2008 R2 on a physical server.

Supported Optional Boards

The Driver Set contains the drivers for the following optional boards:

NEC Express5800/B120a

- **OS installation is supported by the Driver Set**
  - N8403-026 RAID Controller
  - N8403-027 SATA Interface card
  - Storage and I/O Blade AD106a

- **Other optional boards**
  - N8403-018 Fibre Channel controller

NEC Express5800/B120a-d

- **OS installation is supported by the Driver Set**
  - Storage and I/O Blade AD106a

- **Other optional boards**

- N8403-018 Fibre Channel controller

Hard Disk Drive

Connect additional HDD after the OS installation which are not used to install the OS.

Updating Your System

After Windows Server 2008 R2 has been installed, you need to update your system using the Driver Set. To update your system, see Chapter 5, "Updating the 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.

If you want to install the OS on a volume that is mirrored using **Disk Management**, invalidate the mirroring and reset to the basic disk before the installation, and validate the mirroring again after the installation.

You can create, invalidate, or delete the mirror volume by using **Storage** in **Server Management**.

BIOS Update

To install Windows Server 2008 R2, you may need to update your BIOS.

To check if your system needs a BIOS update, go to: http://www.nec.com/express/.

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

BIOS setting (Serial ATA)

Please confirm the BIOS setting prior to the installation. If you have N8403-027 SATA interface card, please configure as follows.

Advanced → Peripheral Configuration → Serial ATA
- SATA Controller Mode Option: Enhanced
- SATA AHCI: Disable
- SATA RAID: Disable

IMPORTANT: Above settings are necessary even if you run **LoadSetupDefault**.
The installation may fail without these settings.

Storage and I/O Blade AD106a

If you want to install Windows to AD106a, please confirm the BIOS setting prior to the installation

- Please configure as follows if you have N8403-026 RAID controller
  Advanced → PCI Configuration → Option ROM Scan
  Enabled → Disabled

> **IMPORTANT:** Above settings are necessary even if you run **LoadSetupDefault**.
> The installation may fail without these settings.

RAID Configuration

To use the hard disk drives in RAID configuration, you must configure the RAID system before installing Windows Server 2008 R2.

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 which came with the controller.

If you use N8403-026 RAID controller or the RAID controller of AD106a, configure RAID drive prior to the installation. To configure RAID drive, refer to the manual.

About the System Partition Size

Use the following formula to calculate the total partition size required for Windows Server 2008 R2:

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

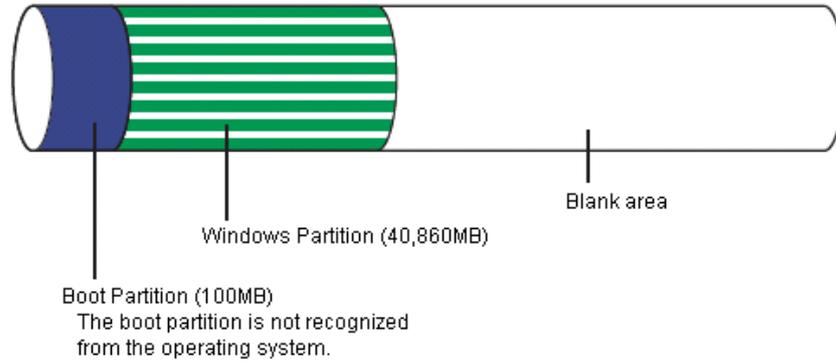|	
Size required to install OS	= 8,000MB (Full Installation)
	or
	= 3,500MB (Server Core Installation)
Paging file size (recommended)	= Installed memory size x 1.5
Dump file size	= Installed memory size + 300MB
Application size	= Required size

> **IMPORTANT:**
>
> - The above-mentioned partition size is the minimum partition size required for system installation. Ensure sufficient partition size for system operation. Following numbers are the recommended size.
>   Full Installation:32,768MB (32GB) or more
>   Server Core Installation:10,240MB (10GB) or more
>   *1GB = 1,024MB
>
> - The above-mentioned paging file size is recommended for collecting debug information (memory dump). A paging file with initial size large enough to store the dump file in the boot drive is required.
>   Correct debug information might not be able to be collected due to virtual memory shortage when the paging file is insufficient, so be sure to set a paging file of sufficient size..
>
> - Regardless of the size of the mounted memory, or the Write debugging information (type of memory dump), the maximum size of the dump file is 'The size of the mounted memory + 300MB'.
>
> - If you install any application program or the like, add necessary space to the partition to install these programs.

> **NOTE:** When new partition is created, initial 100MB is assigned as boot partition by Windows OS.
>
> Example:
> If you make a partition of 40,960MB (40GB), usable space will be
> 40,960MB − 100MB = 40,860MB.
>
>
>
> Blank area
>
> Windows Partition (40,860MB)
>
> Boot Partition (100MB)
> The boot partition is not recognized
> from the operating system.

Example:

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

8,000MB + (512MB x 1.5) + (512MB + 300MB) + application size
= 9,580MB + application size.

If the provided partition size is smaller than that required to install the OS and paging file, expand the partition size or utilize 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 size to a size sufficient to install the OS and paging file.

2. See Chapter 7 "Setting for Solving Problems" to write the debug information of the dump file onto another disk.

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

BitLocker

If you use BitLocker, note the following:

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

> **IMPORTANT:** 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 tasks:
>
> – Replacing the motherboard
>
> – Initializing the TPM
>
> – Changing the BIOS setting

■ Windows Server 2008 R2 cannot be installed in the partition encrypted by BitLocker.

■ For BitLocker, hotfix is provided by Microsoft. Before applying hotfix, please check the information written by Microsoft carefully. For more information, please visit http://support.microsoft.com/kb/975496/en-us

4. Installing Windows Server 2008 R2

This chapter provides the steps to install Windows Server 2008 R2.

1. Turn on your system.

> **IMPORTANT:** To install Windows Server 2008 R2, you may need to update BIOS. To check if your system needs a BIOS update, go to: http://www.nec.com/express/.
> Prior to Windows Server 2008 R2 installation, check the BIOS settings. See "BIOS setting (Serial ATA)" and "Storage and I/O Blade AD106a".

2. Insert the Windows Server 2008 R2 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 then turn it on again.

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

   The DVD-ROM starts.
   A message "Windows is loading files …" appears.

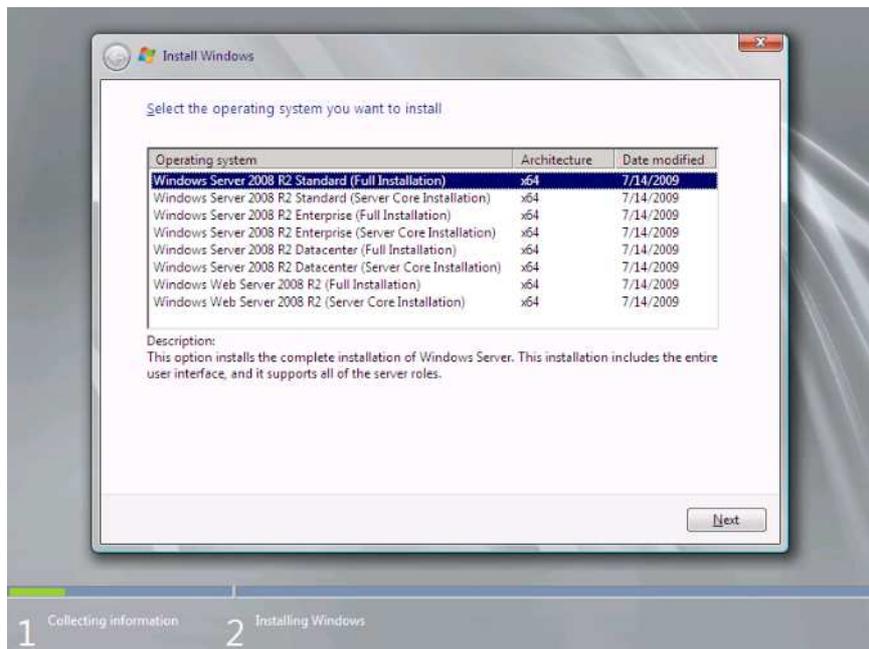4. Select a language and other options from the drop-down lists, and then click **Next**.

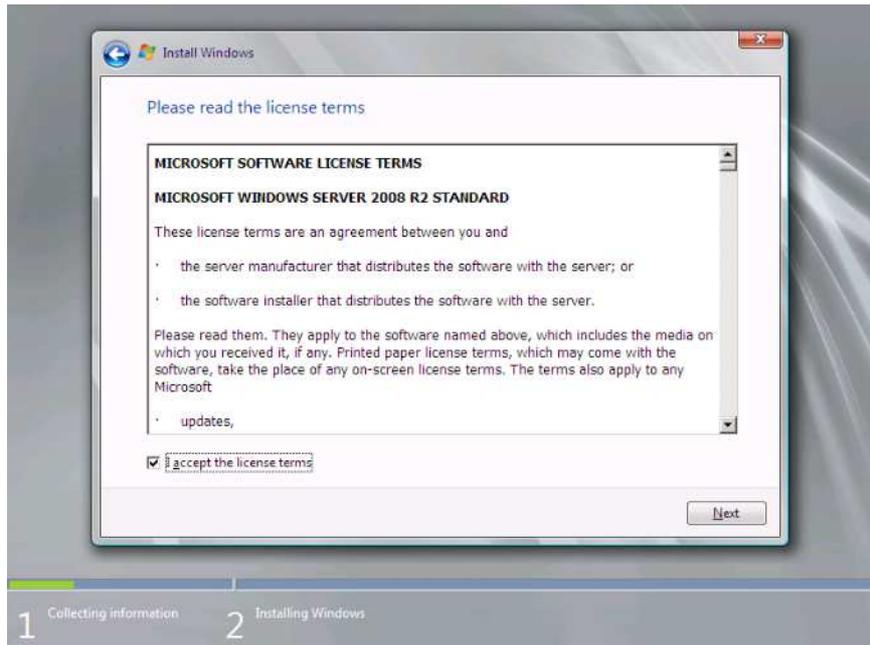**5.** Click the **Install now** button.

The installation starts.

6. Select the edition of the Windows operating system that you purchased, and then click **Next**.
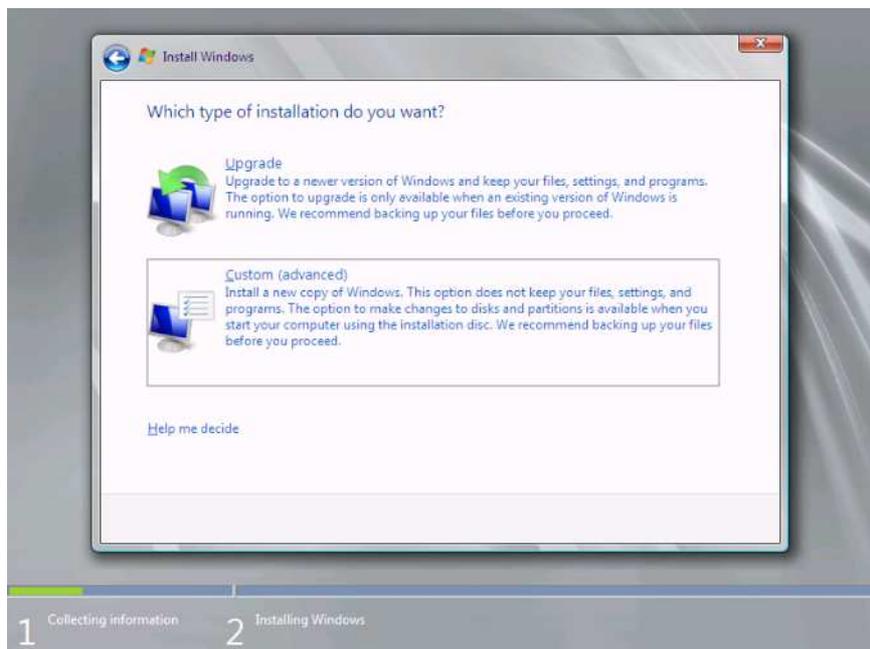
> **NOTE:** The Windows versions listed on the screen vary depending on the Windows Server 2008 R2 DVD-ROM you are using.

7. Read the license terms carefully. If you agree, select **I accept the license terms**, and then click **Next** .
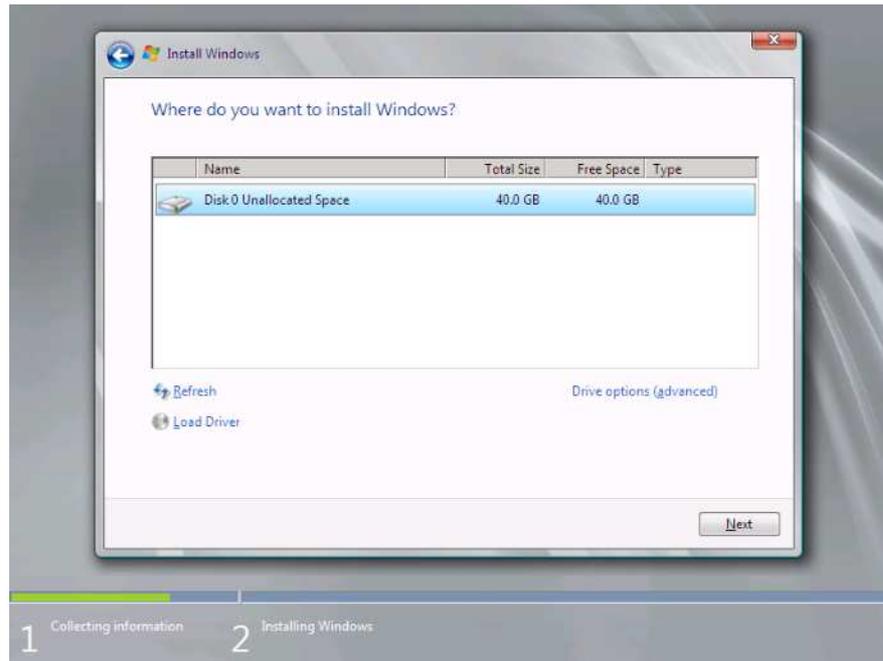
8. Select the type of installation you want.

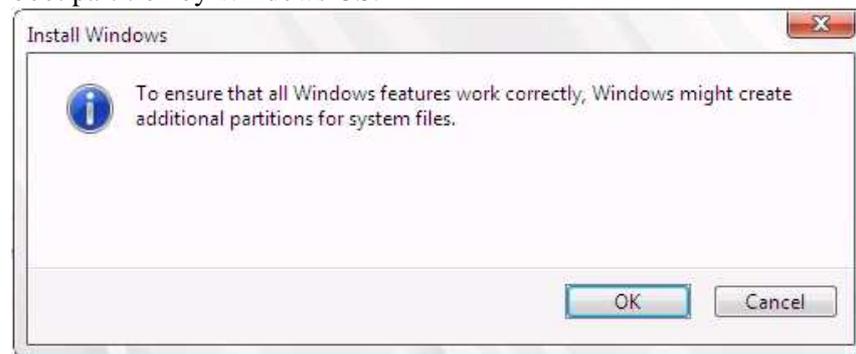**Custom (advanced)** is selected below.

**9.** Select the disk where a partition will be created, and then click **Drive Option (advanced)**.

> **IMPORTANT:** If the partition has already been created, go to step 12.

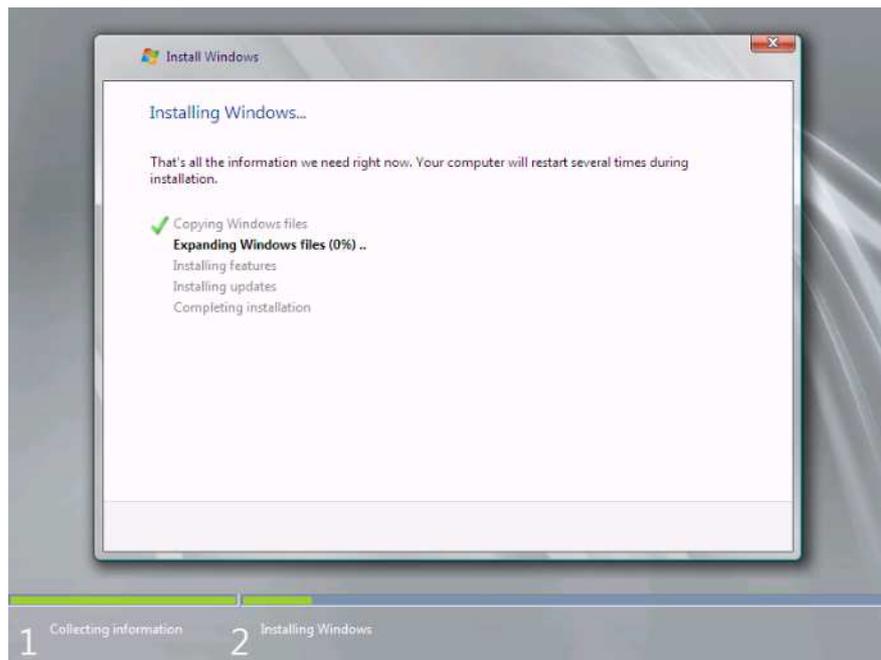**10.** Click **New**, enter a partition size, and then click **Apply**.

> **NOTE:** When new partition is created, initial 100MB is assigned as boot partition by Windows OS.

11. Select the partition created in step 10, and then click **Format**.

12. Select the partition created, and then click **Next**.
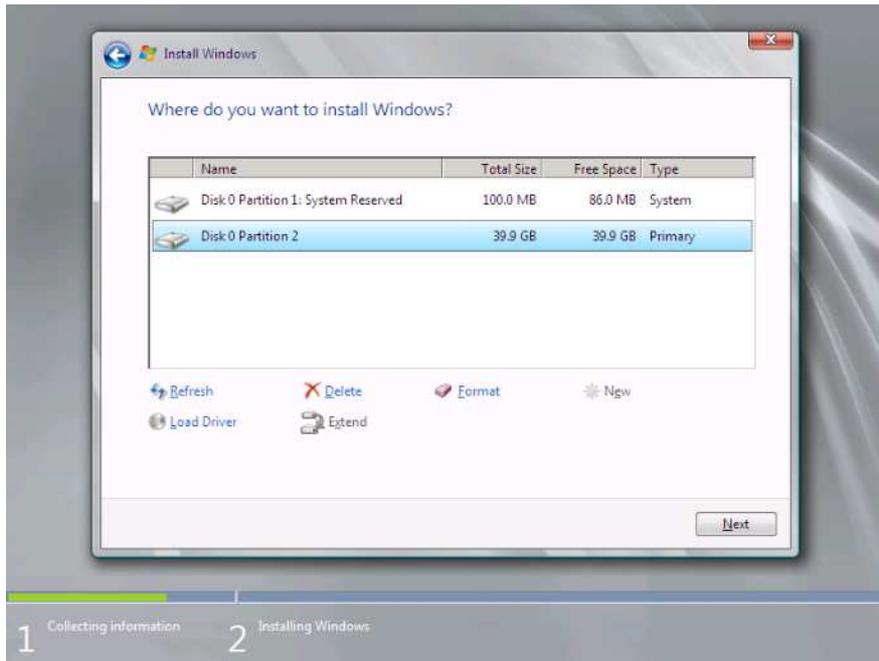
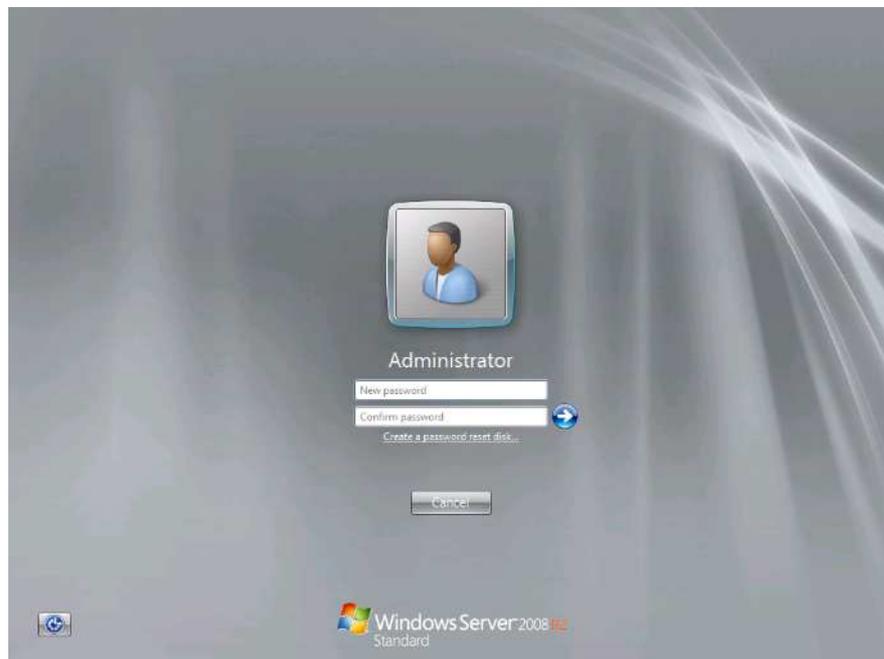When the following message appears, the installation starts automatically.

13. After the installation of Windows Server 2008 R2 is completed, the following dialog box will prompt you to change the password before you log on. Click **OK**.

14. Change the password, and then click the **Next** button.

If you have selected a full installation

If you have selected a Server Core installation

> **NOTE:** The Windows Server 2008 R2 password must be 6 characters or longer and combine uppercase letters, lowercase letters, and numbers.
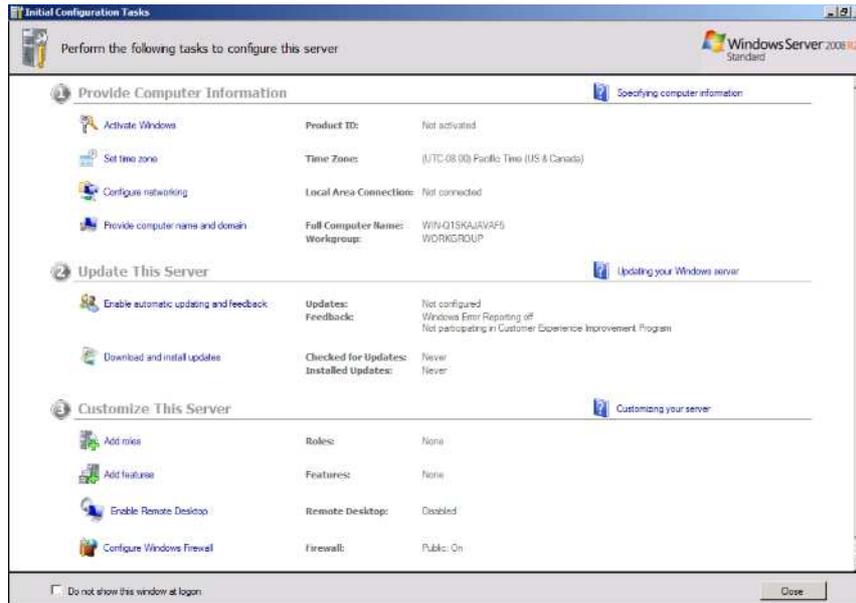
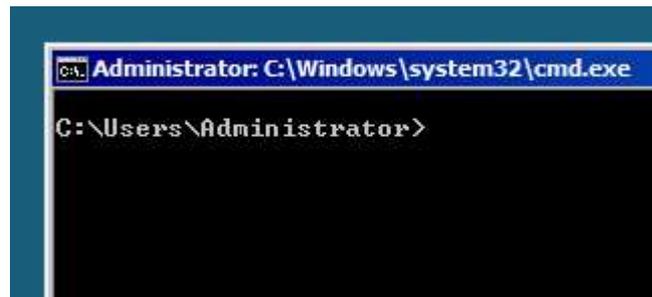**15.** When the following message appears, click OK to log on.

16. If you have selected a full installation

In the **Initial Configuration Tasks** window, enter user information.

If you have selected a Server Core installation

At the command prompt, enter user information

> **NOTE:** For more detailed procedure, see the Microsoft Step-By-Step Guide.

17. See Chapter 5, "Updating the System".

18. See Chapter 6, "Installing Drivers and Configuring Driver Settings".

19. See Chapter 7, "Setting for Solving Problems".

The installation is complete.

5. Updating the System

After installing Windows Server 2008 R2, you must update your system by following the steps in this chapter.

If you have not yet downloaded the Driver Set , see *Downloading a Driver Set* in Chapter 2, "Before You Start".

IMPORTANT: 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

IMPORTANT: "Updating the System" disables the Scalable Networking Pack (SNP) function. The setting of SNP function may affect the system performance, so please refer to the attention of SNP detail in the following site before setting it.
http://www.nec.com/global/prod/express/

---

1. Log on to the system using an administrator account.

Insert your removable media containing the Driver Set into your drive.

2. Run *<drive letter>:*\winnt\bin\oschk\oschk.bat.

NOTE: For example, if the driver kit is stored in "temp" folder in drive D, do the following:

■ Full installation

(1) Enter "*D:\temp*\winnt\bin\oschk\oschk.bat", and click **OK**.

■ Server Core installation

(1) Enter the following command from the command prompt:
cd /d D:\ temp\winnt\bin\oschk\

(2) Enter the following command and click **Enter**:
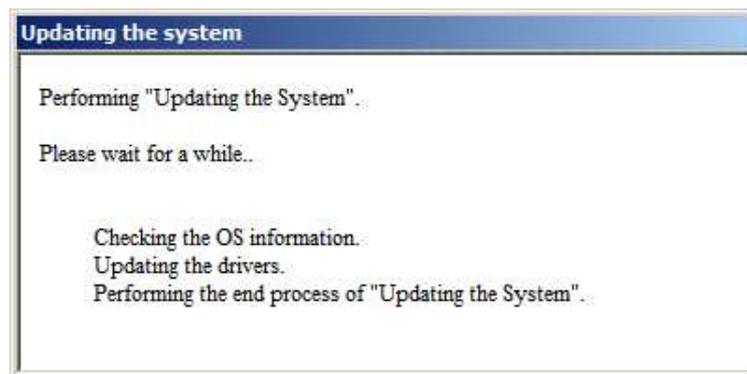oschk.bat

---

The following box appears.

3. Read the message, and then click **OK**

The update starts.

> **NOTE:** The following box appears during the update if you have
> deployed a full installation of Windows Server 2008 R2. Wait until the
> update is completed.
>
>

4. When the following message appears, click **OK** to restart the system.

The system has been updated.

6. Installing Drivers and Configuring Driver Settings

This chapter provides the procedures for installing the drivers for the optional boards supported by the NEC Express5800 servers.

For other options that are not described in this chapter, see the User's Guide for the relevant driver.

LAN Driver and PROSet

The LAN driver was installed automatically while your system was being updated in the previous section.

PROSet is a LAN driver utility software which has following functions.
- Show detailed information of adapters
- Diagnostics such as loop back test and packet transfer test
- Teaming

By configuring multiple network adapters as one team, PROSet can provide fault tolerant environment and improve the throughput performance between network adapters and LAN switch.

To install PROSet, follow the steps.

1. Start Explorer.

2. Run **dxsetup.exe** in the following directory.
   <drive letter>:\winnt\ws2008r2\r1441\apps\prosetdx\win7_x64
   Intel(R) PRO Network Connections - InstallShield Wizard starts.

3. Click **Next**.

4. Select **I accept the terms in the license agreement** and click **Next**..

5. **Setup Options** screen appears. Confirm that following 3 items are selected. Click **Next**.
   - Drivers
   - Intel(R) PROSet for Windows *Device Manager
   - Advanced Network Services

6. Click **Install**.
   InstallShield Wizard Completed window appears.

7. Click **Finish**.

Restart the system.

> **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.

> **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.
>
> - To set an IP address, make sure that the Internet Protocol Version (TCP/IP) box is checked.
>
> - After changing LAN controller configuration, it may take about 90 seconds to reflect the change and recover the connection.

Network Driver

Changing a link speed

Follow the steps below to set a link speed and duplex mode. The link speed and duplex mode should be identical with connected LAN switch.

1. Start **Device Manager**.

2. Open **Network adapters**, and then double-click **Intel(R)~**.

3. Click **Link Speed**, and then set the same values for **Speed and Duplex** as those for the switching hubs.

4. In the **Property** dialog box, click **OK**.

5. Restart the system.

WOL

Follow the steps below to use WOL(Wake On LAN) function.

1. Start Device Manager.

2. Open Network adapters, and then double-click **Intel(R) 82576 Gigabit Dual Port Server Network Connection]/[Intel(R) 82576 Gigabit Dual Port Server Network Connection #2**

3. In the **Property** dialog box, select **Power Management** tab and configure **Wake On LAN** as follows.

Item	Configuration
"Wake On Magic Packet"	ON
"Wake On Magic Packet from power off state "	ON
"Wake on Link"	OFF
" Wake on Pattern Match"	OFF

4. In the **Property** dialog box, click **OK**.

5. Restart the system.

Teaming

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.

Switch Fault Tolerance (SFT) provides a failover relationship between two ports when each port is connected to separate switches. SFT supports two ports per team.

Static Link Aggregation (SLA) accounts for the GEC and 802.3ad static protocols. SLA is a switch-assisted teaming mode and requires configuring ports at both ends of the link: server interfaces and switch ports.

> **IMPORTANT:**
>
> After changing LAN controller configuration, it may take about 90 seconds to reflect the change and recover the connection.

<Creating a Team>

1. Connect LAN adapters and LAN switches with LAN cables.

2. Start **Device Manager**.

3. Open **Network adapters**, and then double-click **Intel(R)~**.

4. Select the **Teaming** tab, select **Team this adapter with other adapters**, and then click **New Team…**.

5. Type a team name, and click **Next**.

6. Confirm the adapters to include in the team, and then click **Next**.

7. Select **a team mode**, and then click **Next**.

> **IMPORTANT:** Following team types are supported
>
> - Adapter Fault Tolerance
> - Adaptive Load Balancing
> - Static Link Aggregation
> - Switch Fault Tolerance

8. Click **Finish**.

9. In **Device Manager**, double-click a teamed adapter to see its property. Select the **Settings** tab, and then click **Modify Team…**.

10. To set an adapter to primary, select the adapter, and then click **Set Primary**.

    To set an adapter to secondary, select the adapter, and then 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**.

11. In the **Settings** tab, click **Test Switch...** When the switch test screen appears, click **Run Test**. When **No problems ~** appears, the test is complete.

> **IMPORTANT:**
>
> Prior to do **Run Test**, confirm the status of LAN adapters in

> **Settings** tab are **Active** or **Standby**.

12. Restart the system.

<Removing a Team>

1. Start **Device Manager**.

2. Open **Network adapters**, and then double-click a teamed adapter.

3. Select the **Settings** tab, and then 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.

> **IMPORTANT:**
>
> ■ To use AFT, it is recommended that the network adapters be connected 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.

LAN Board N8403-017/020/021/022

If you use the LAN Board N8403-017/020/021/022, you do not need to install the driver manually. It is automatically installed by Windows Plug-and-Play feature.

Fibre Channel Controller N8403-018

If you use the Fibre Channel Controller N8403-018, you do not need to install the driver manually. It is automatically installed by Windows Plug-and-Play feature.

Storage and I/O Blade AD106a

If you use the Storage and I/O Blade AD106a, you do not need to install the driver manually. It is automatically installed by Windows Plug-and-Play feature.

Graphics Accelerator

The driver for the standard graphics accelerator was installed automatically while your system was being updated from the Driver Set.

> **NOTE:** The graphics accelerator driver is supported only on a server

running a full installation. Use VGA on a server running a Server Core installation.

To reinstall the driver alone, perform the steps below:

1. Go to **Start**, and click **Computer**.

Insert your removable media into your drive.

2. Run **install.bat** which is in the following directory.

<Drive Letter>:\winnt\ws2008r2\video

3. Follow the messages to proceed with the reinstalltion.

If the message **" Windows can't verify the publisher of this driver software.**" appears, click "**Install this driver software anyway."** to continue the installation.

4. The installation is complete.

Restart the system.

7. Setting for Solving Problems

Set up your system as follows so that your computer can recover quickly and surely in the event of a problem.

Memory Dump (Debug Information)

This section describes the procedures for collecting memory dump (debug information) in the server.

IMPORTANT: Cautions for the Memory Dump

■ The maintenance service representative is in charge of collecting memory dump. Customers need only to specify the memory dump.

■ If any problem occurs after specifying the memory dump according to the process below, a message informing you that the system is short of virtual memory may appear. In this case, do not restart the system. If you restart the system, the memory dump may not be stored correctly.

Follow the procedure below to specify the memory dump.

1. Select **Control Panel** and click **System and Security,** then select **System**
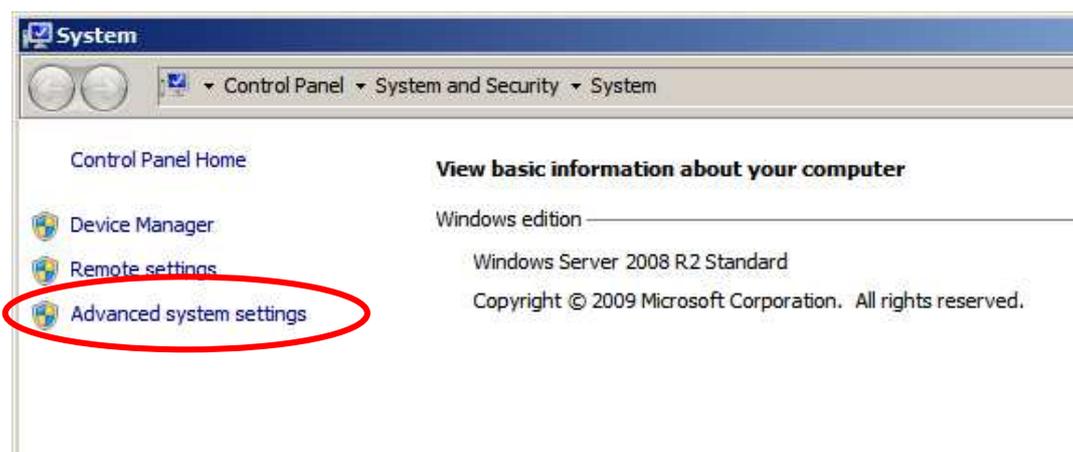
   The **System** dialog box appears.

   NOTE:
   If **View by** is not set as **Category**, start **System** from **Control Panel** directly.
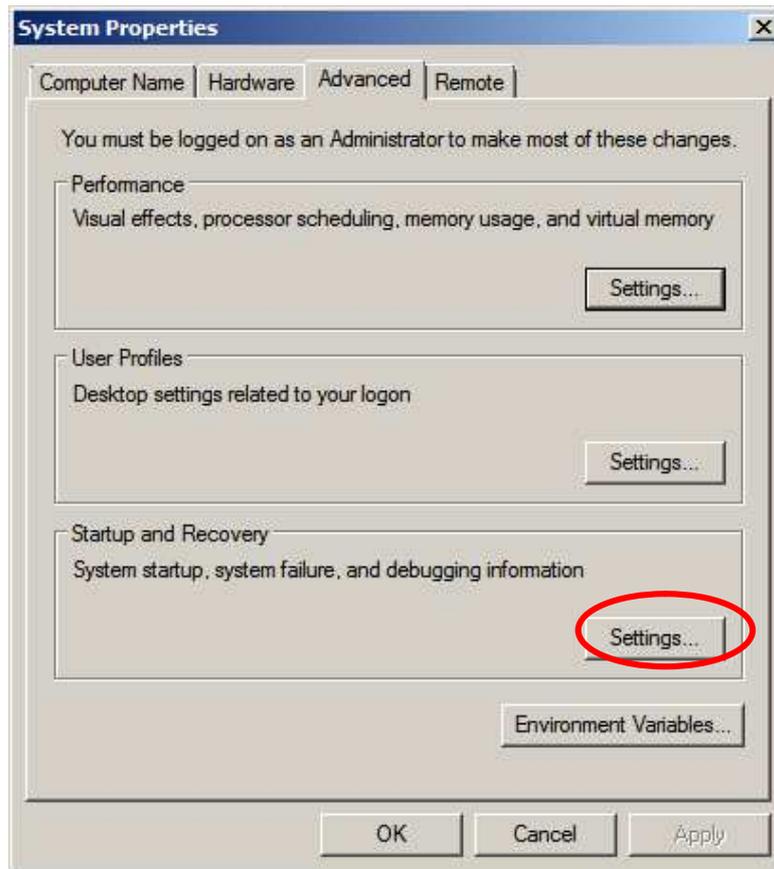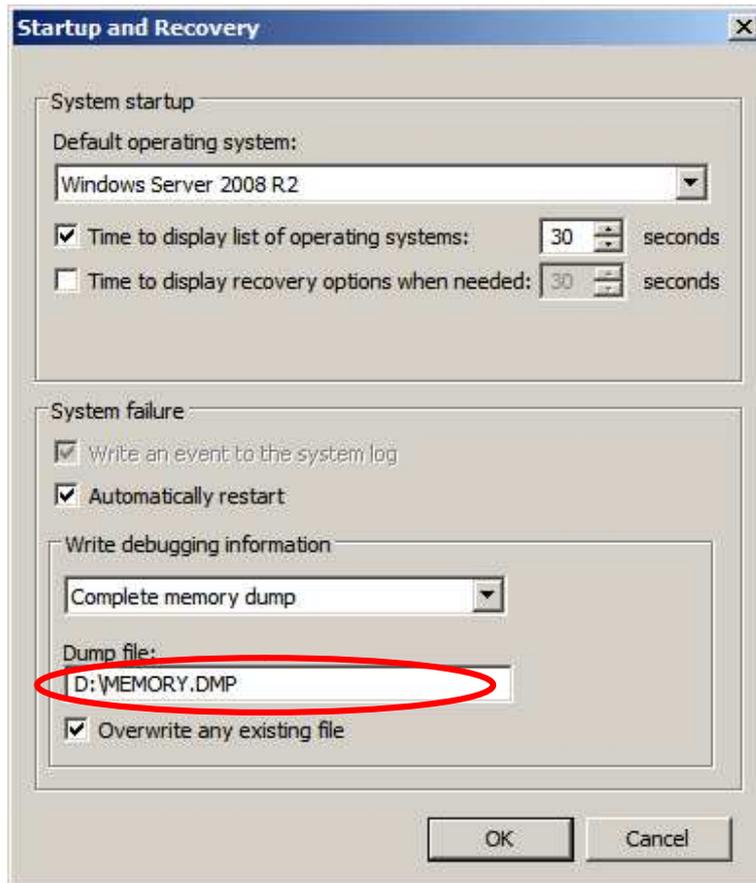
   ---

2. Click **Advanced system settings**.

   The **System Properties** dialog box appears.

3. Select the **Advanced** tab.
Click **Settings** on the **Startup and Recovery** group box.

4. Modify **"Dump file"** in the **"Write debugging information"** group box.

E.g., Write the debug information in drive D with the file name **"MEMORY.DMP"**.

D: \MEMORY.DMP

IMPORTANT:

- It is recommended that you specify "Complete Memory Dump" to write the debug information. If the mounted memory size is larger than 2GB, "Complete Memory Dump" cannot be specified; in this case, specify "Kernel Memory Dump" instead.

- Specify the drive where there is a free area more than the size of "the memory capacity mounted on Express server + 300MB".

- In case the mounted memory size exceeds 2GB due to the added memory, change the write debugging information to [Kernel Memory Dump] before adding memory. The size of debugging information (memory dump) also changes with the addition of memory. Verify the size of the free area in the destination drive to write the debugging information (memory dump).

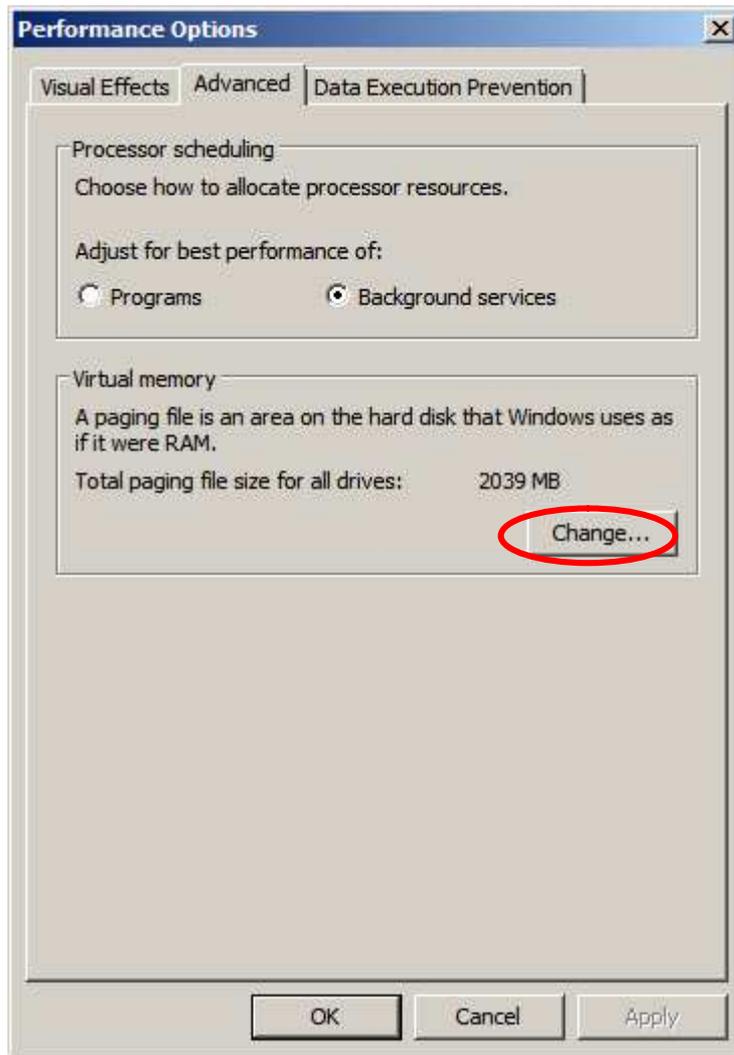**5.** Click **Settings** on the **Performance** group box.
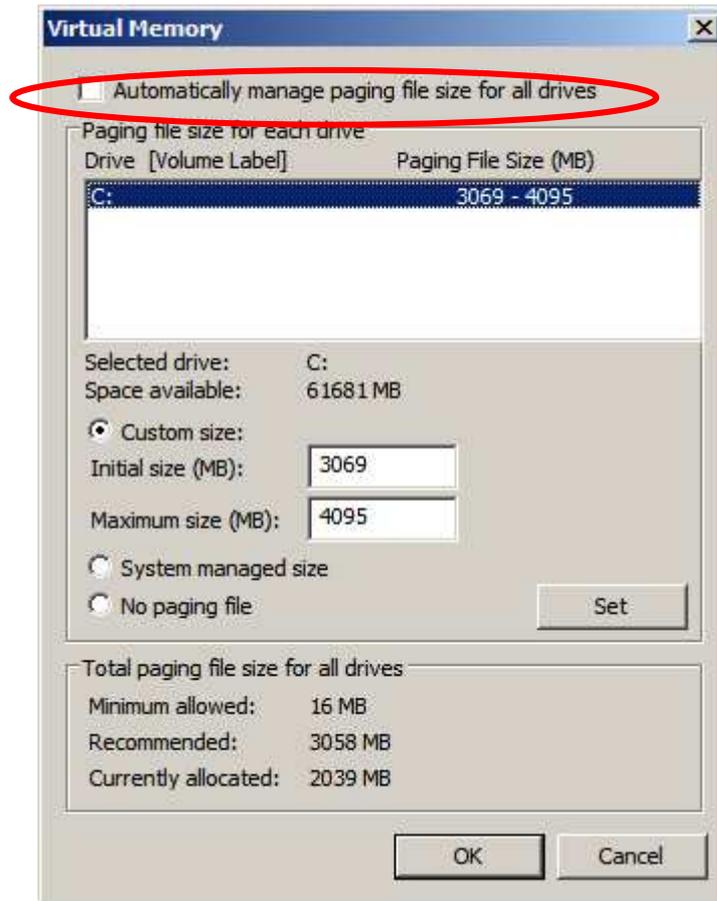
The **Performance Options** window appears.
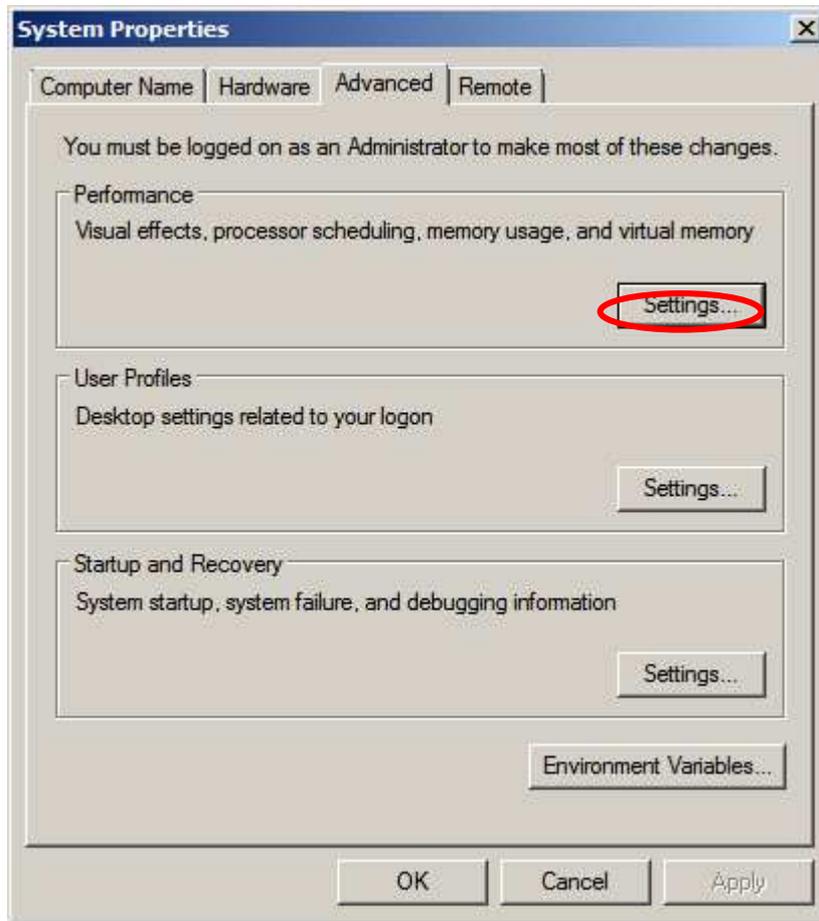
6. Click the **Advanced** tab on the **Performance Options** window.
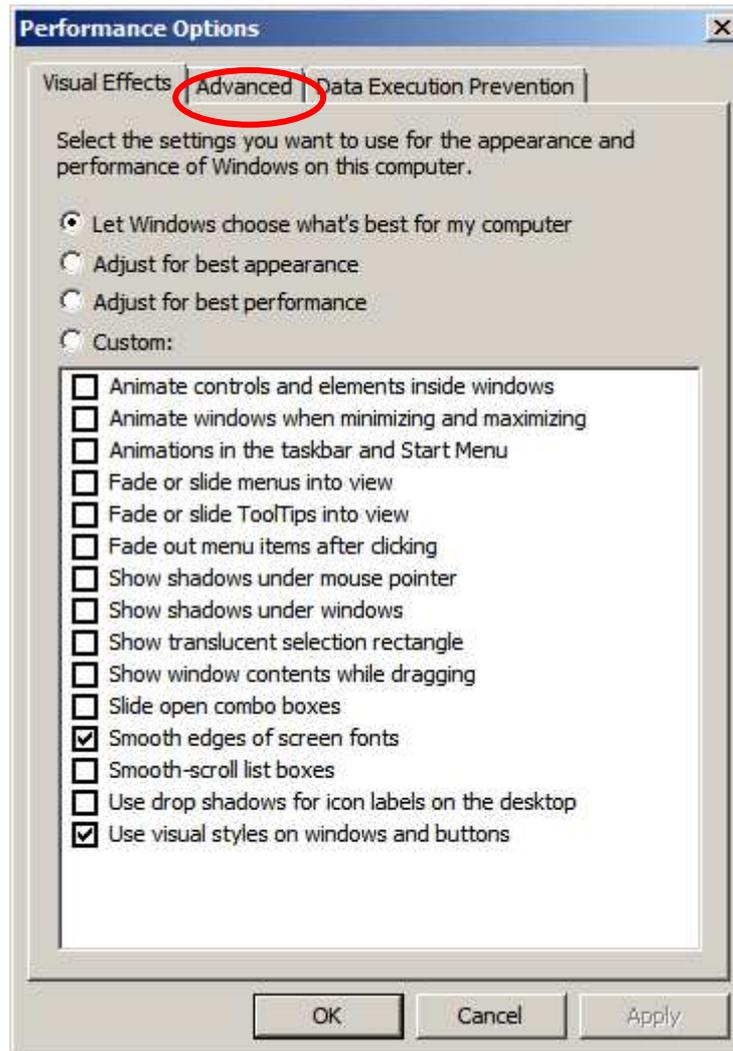
**7.** Click **Change** on the **Virtual memory** group box.

8. Uncheck the **Automatically manage paging file size for all drives** box, and check **Custom size**.

9. In the **Paging file size for each drive** box, specify as follows:

   – A value larger than the recommended size shown in **Total paging file size for all drives** for **Initial size**

   – A value larger than the **Initial size** for **Maximum size**

Then click **Set**.
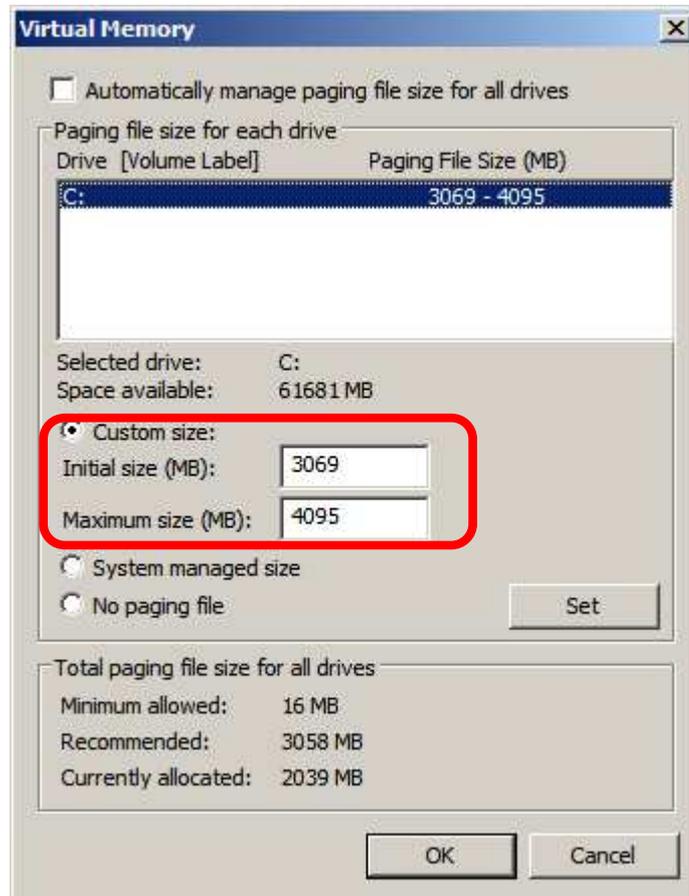
IMPORTANT:

- The above-mentioned paging file size is recommended for collecting debug information (memory dump). A paging file with an initial size large enough to store the dump file in the boot drive is required.
  Correct debug information might not be able to be collected due to virtual memory shortage when the paging file is insufficient, so be sure to set a paging file of sufficient size.

- For more information on "Recommended" value, see "About the System Partition Size" described earlier.

- In case the memory is expanded, re-specify the paging file to suit the actual memory size.

---

10. Click **OK**.

A message to restart the system may appear according to the modified specification.
In this case, follow the message to restart the system.

How to Create a User-mode Process Dump File

"User-mode Process Dump" is the file that records information when any application error occurs.

When an application error occurs, do not close the pop-up window that notifies you of the error, but collect a dump using the following process.

1. Right-click a blank part of the taskbar and click **Task Manager**,
   or press **Ctrl + Shift + Esc** to start **Task Manager**.

2. Click the **Processes** tab.

3. Right-click on the name of the process from which you want to collect a dump, and then click **Create Dump File**.

4. The dump file is stored in the following directory.

   C:\Users\<User Name>\AppData\Local\Temp

   > **NOTE:** The folder may be treated as hidden folder. If the folder does not appear, run Explorer and select **Organize** - **Folder and search options...** - **View**, and check to **Show hidden files, folders and drives**.

When the User-mode Process Dump is created, pick up the file from the directory described in Step 4.

Refer to the Knowledge Base of Microsoft web-site for more information about the User-mode Process Dump file collection.

"How to create a user-mode process dump file in Windows Server 2008"

   http://support.microsoft.com/kb/949180/en-us

   > **NOTE:** For Windows Server 2008, Dr. Watson is replaced with [Problem Reports and Solutions]; therefore, you can not collect the Crash Dump file using Dr. Watson. The procedure detailed above provides you with the information equivalent to that in the Crash Dump file.

Network Monitor Setup

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

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

1. Download Microsoft Network Monitor from the following web site:
   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** for a setup format.

3. Network Monitor is installed.

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

Network Trace Capture

1. On the **Start** menu, start **Microsoft Network Monitor**.

2. On **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. On the **Select Networks** window, select a network you want to capture a trace.

4. On the **Capture** menu, click **Start** to start capturing a network trace.

5. On the **Capture** menu, click **Stop** to stop capturing a network trace.

6. On 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.

8. 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.
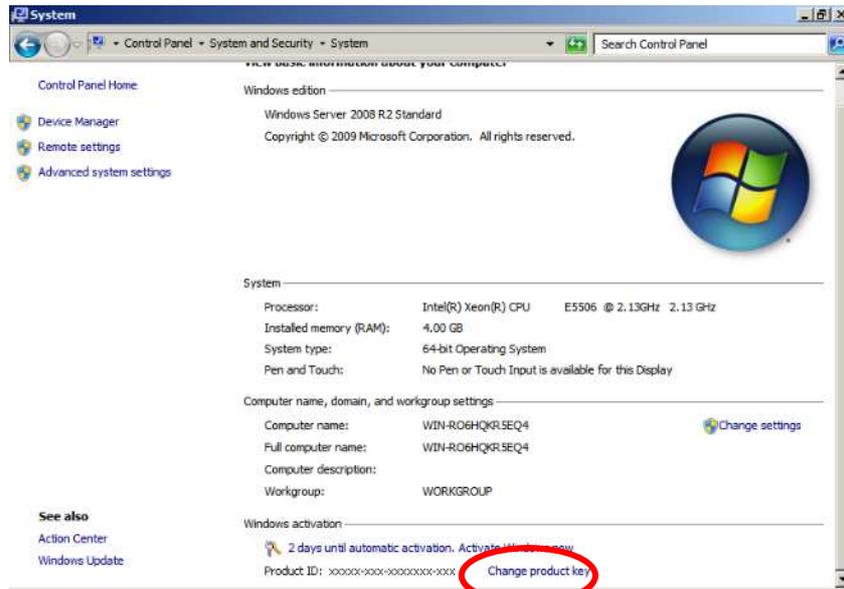
For a Server Running a Full Installation

1. Select **Control Panel** and click **System and Security**, then select **System**

IMPORTANT: If the following message appears, Windows has already been activated on your system. Click **Close** to exit.
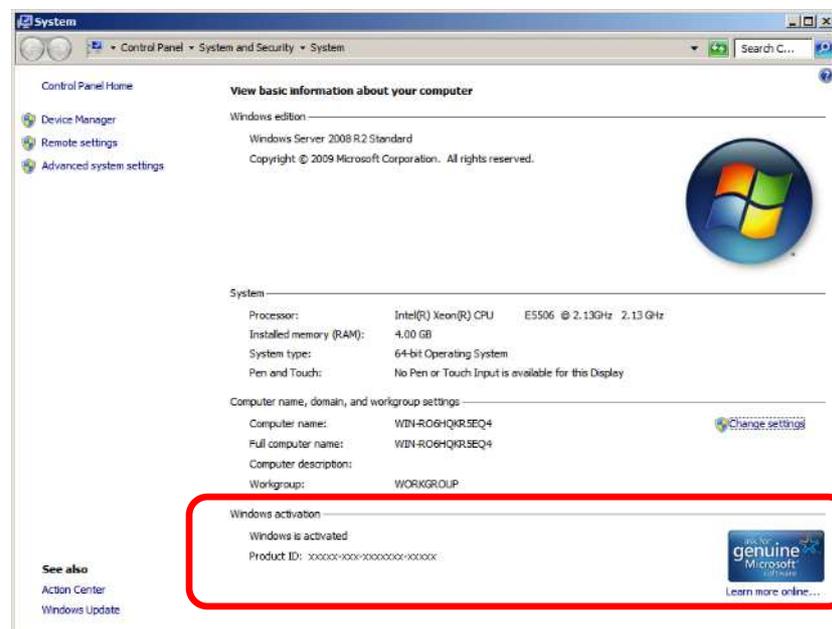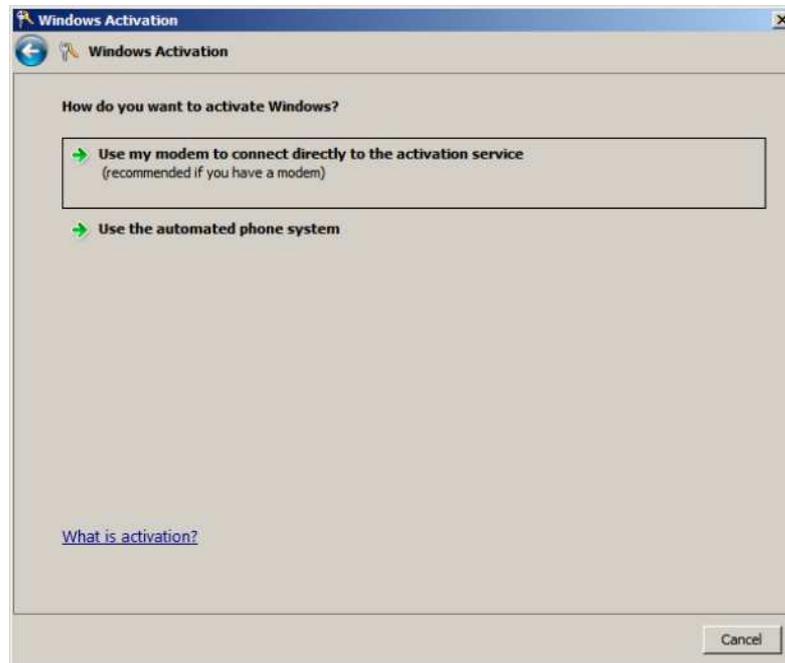
2. On the following screen, click **Change product key**.

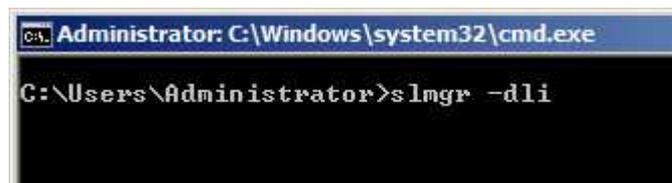3. Type the product key shown on your COA label, and click **Next**.
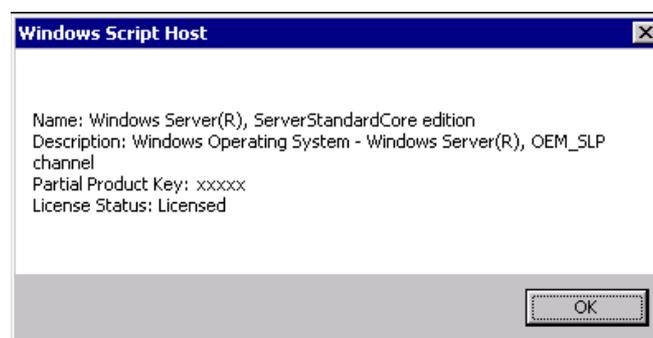
4. Activate Windows.

The Windows activation is complete.

For a Server Running a Server Core Installation

1. At the command prompt, type **Slmgr –dli**, and press **Enter**.
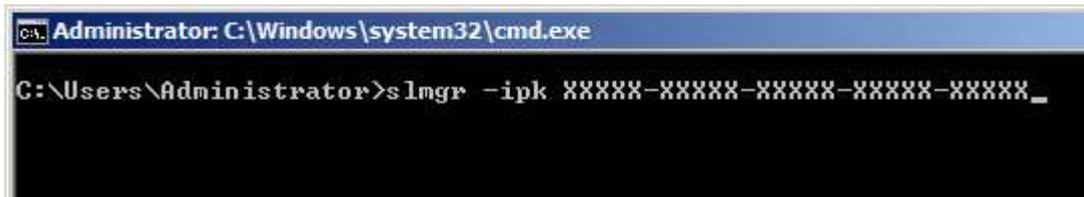

> **IMPORTANT:** If the following message appears, Windows has already been activated on your system. Click **OK** to exit.
>
>

2. Type **slmgr –ipk <PID>**, and press **Enter**.

* PID is your product key on the COA label.

3. Type **slmgr –dti** to obtain an installation ID for Windows activation, and press **Enter**.

4. See **%systemroot%\system32\slui\phone.inf** for the phone number of the Microsoft customer service.

5. Call the above number,, inform the representative of the installation ID which you obtained in step 3, and receive a confirmation ID.

6. At the command prompt, type **slmgr –atp <CID>**, and press **Enter**.

   * CID is the confirmation ID that you received from the call center.
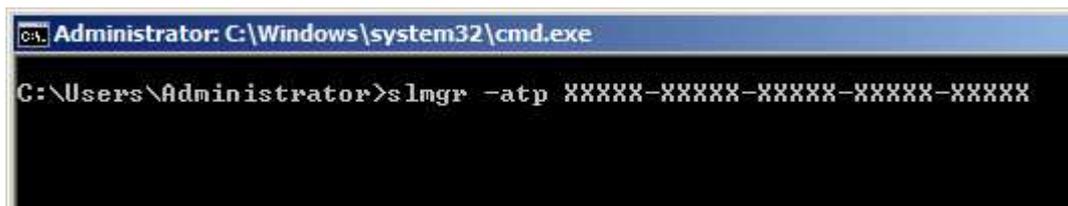
The Windows activation is complete.

9. Remote Desktop for Management

This chapter describes how to setup the Remote Desktop for Management which is required to use Windows Server 2008 R2.

Full Installation

Follow steps below to setup.

1. Select **Start**- **Control Panel**- **System and Security - System**.

2. Click **Remote Settings** on **System**.

3. Check to **Allow connections from computers running any version of Remote Desktop** on **Remote Desktop**.

Server Core Installation

Refer to the following technical information provided by Microsoft Corporation.

How to enable Remote Desktop on Windows 2008 Server Core

NOTE: Visit online support of Microsoft Corporation and obtain an information by entering a search keyword [KB555964].

10. Troubleshooting

This chapter provides instructions to troubleshoot system problems that you might encounter when using Windows Server 2008 R2. 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 Windows Server 2008 R2. For other events, see your User's Guide.

When N8403-018 is used, the names of the Fibre Channel controllers may appear with different names on Device Manager:

> It is not a problem in operating the system. To display correct controller name, run following command in the Driver Set and restart the system.
> *<Drive Letter>*:\winnt\ws2008r2\elxstor\friendlyname.exe

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

Event ID: 27

Source: e1qexpress

Level: Warning

Description : Intel(R) 82576 Gigabit Dual Port Server Network ...

Network link has been disconnected.

  Resolution: If the above events are logged when you start the system. These events do not affect system operation. Ignore these messages.

Event ID: 63

Source: Microsoft-Windows-WMI

Level: Warning

Description: A provider, Ncs2, has been registered in the Windows Management Instrumentation namespace Root\IntelNCS2 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.

  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.

Event ID: 22

Source: iANSMiniport

Level: Warning

Description: Primary Adapter does not sense any Probes:
              Intel(R) ~ Possible reason: partitioned Team.

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 errors or warnings are logged when I use the system.

Event ID: 1004

Source: IPMIDRV

Level: Warning

Description: The IPMI device driver attempted to communicate with the IPMI BMC device during normal operation. However the communication failed due to a timeout.
              You can increase the timeouts associated with the IPMI device driver.

Resolution: In some cases, above events are logged. Usually IPMI command is retried and do not affect system operation.

The following system events are logged when Windows Server 2008 R2 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 ''. NtpClient will try again in 3473457 minutes and double the reattempt interval thereafter. The error was: No such host is known. (0x80072AF9)

Resolution: These events do not affect system operation. Ignore these messages.

The following application events are logged when Windows Server 2008 R2 is installed.

Event ID: 1534

Source: Microsoft-Windows-User Profiles Service

Level: Warning

Description: Profile notification of event Create for component {56EA1054-1959-467f-BE3B-A2A787C4B6EA} failed, error code is The revision level is unknown..

Resolution: These events do not affect system operation. Ignore these messages.

Unexpected drive letter is assigned when Windows Server 2008 R2 is installed.

Drive letter is assigned temporarily during the OS installation and it is changed after the installation is finished. This problem is limited to "drive letter change" and do not affect system operation.

To reassign a drive letter,

Full installation:
Use **Start - Server Manager – Storage - Disk Management**

Server Core Installation:
See Microsoft web site
Mountvol
http://technet.microsoft.com/en-us/library/cc772671(WS.10).aspx

The following system events are logged when I use the system

Event ID: 1

Source: iScsiPrt

Level: Error

Description: Initiator failed to connect to the target. Target IP address and TCP Port number are given in dump data.

Resolution: These events do not affect system operation. Ignore these messages.

The following warnings are logged to application event log when I import a transportable shadow-copy to another server that has a read-only volume

Event ID: 8193

Source: VSS

Level: Error

Description: Unexpected error calling routine IOCTL_DSIK_GET_DRIVE_LAYOUT_EX

Event ID: 12289

Source: VSS

Level: Error

Description: Unexpected error DeviceIOControl

Resolution: Visit following web site of Microsoft.

http://support.microsoft.com/kb/2003016/en-us

The following warnings are logged to application event log when I import a transportable shadow-copy to another server that has a floppy disk drive

Event ID: 12289

Source: VSS

Level: Error

Resolution: Visit following web site of Microsoft.

http://support.microsoft.com/kb/2003968/en-us