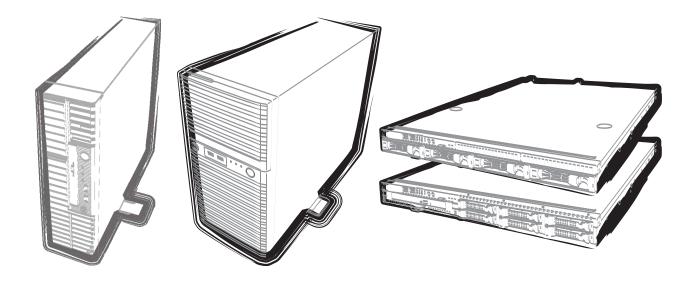
Express 5800





NEC Express Server Express5800 Series

Express5800/T110f-S, R110f-1E, T110f-E EXP285A, EXP283A, EXP284A, EXP287A, EXP288A

Installation Guide (Windows)

Chapter 1 Installing Windows

Chapter 2 Installing Bundled Software

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Documents for This Product

Documents for this product are provided as booklets (\square) or as electronic manuals (\blacksquare) in the EXPRESSBUILDER disc (\bigcirc).

| Precautions for Use | Describes points of caution to ensure the safe use of this server. Read these cautions before using this server. |
|---------------------|--|
| Getting Started | Describes how to use this server, from unpacking to operations. See this guide at first and confirm an outline of this product. |

| © EXPRESSBUILDER — | |
|---|---|
| User's Guide | |
| Chapter 1: General Description | Overviews, names, and functions of the server's parts |
| Chapter 2: Preparations | Installation of additional options, connection of peripheral devices, and proper location for this server |
| Chapter 3: Setup | System BIOS configurations and summary of EXPRESSBUILDER |
| Chapter 4: Appendix | Specifications and other information |
| | |
| Installation Guide (Windows) | |
| Chapter 1: Installing Windows | Installation of Windows and drivers, and important information for installation |
| Chapter 2: Installing Bundled Software | Installation of bundled software, such as NEC ESMPRO and Universal RAID Utility |
| Maintenance Guide | |
| Chapter 1: Maintenance | Server maintenance and troubleshooting |
| Chapter 2: Useful Features | The details of system BIOS settings, RAID Configuration Utility, and EXPRESSBUILDER |
| Chapter 3: Appendix | Error messages and Windows Event Logs |
| Other documents Provides the details of NEC ESM | PRO, Universal RAID Utility, and the other features. |

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Notations Used in This Document

Notations used in the text

In addition to safety-related symbols urging caution, three other types of notations are used in this document. These notations have the following meanings.

| Important | Indicates critical items that must be followed when handling the hardware or operating software. If the procedures described are not followed, hardware failure, data loss, and other serious malfunctions could occur. | | |
|-----------|---|--|--|
| Note | Indicates items that must be confirmed when handling the hardware or operating software. | | |
| Tips | Indicates information that is helpful to keep in mind when using this server. | | |

Optical disk drive

This server is equipped with one of the following drives, depending on the purchase order. These drives are referred to as *optical disk drive* in this document.

- DVD-ROM drive
- DVD Super MULTI drive

Hard disk drive

Unless otherwise stated, hard disk drive (HDD) described in this document refers to the following.

- Hard disk drive (HDD)
- Solid state drive (SSD)

Removable media

Unless otherwise stated, removable media described in this document refers to the following.

- USB flash drive
- Flash FDD

Abbreviations of Operating Systems (Windows)

Windows Operating Systems are referred to as follows.

See Chapter 1 (1.2 Supported Windows OS) for detailed information.

| Notations in this document | Official names of Windows | | |
|----------------------------|-----------------------------------|--|--|
| | Widnows Server 2012 Standard | | |
| Windows Server 2012 | Widnows Server 2012 Datacenter | | |
| | Windows Server 2012 Foundation | | |
| Windows Server 2008 R2 | Windows Server 2008 R2 Standard | | |
| windows Server 2008 R2 | Windows Server 2008 R2 Enterprise | | |
| Windows Server 2008 * | Windows Server 2008 Standard | | |
| | Windows Server 2008 Enterprise | | |

* Includes 64-bit and 32-bit Editions unless otherwise stated. The following appears on EXPRESSBUILDER.

- Windows Server 2008 64-bit Edition:
- Windows Server 2008 32-bit Edition:

Windows Server 2008 x64 Windows Server 2008 x86

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CAN ICES-3(A)/NMB-3(A)

CE / Australia and New Zealand Statement

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這是甲類的資訊產品,在居住的環境中使用

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使用者會被要求採取某些適當的對策。

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Turkish RoHS information relevant for Turkish market

EEE Yönetmeliğine Uygundur

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| | 有毒有害物质或元素 | | | | | |
|---|-----------|-----------|-----------|------------------|---------------|-----------------|
| 部件名称 | 铅 (Pb) | 汞 (Hg) | 镉 (Cd) | 六价铬 (Cr (VI)) | 多溴联苯 (PBB) | 多溴二苯醚 (PBDE) |
| 印刷线路板 | × | 0 | 0 | 0 | 0 | 0 |
| HDD、DVD等 | \times | 0 | 0 | 0 | 0 | 0 |
| 机箱、支架 | 0 | 0 | 0 | 0 | 0 | 0 |
| 电源 | \times | 0 | 0 | 0 | 0 | 0 |
| 键盘 | \times | 0 | 0 | 0 | 0 | 0 |
| 其他(电缆、鼠标 等) | × | 0 | 0 | 0 | 0 | 0 |
| O:表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。 ×:表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。 | | | | | | |

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- 5. полибромбифенолы (РВВ) не превышает 0,1 % веса вещества или в концентрации до 1000 миллионных частей;
- 6. полибромдифеноловые эфиры (PBDE) не превышает 0,1 % веса вещества или вконцентрации до 1000 миллионных частей.

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Keep this document for future reference.

Latest editions

This document was created based on the information available at the time of its creation. The screen images, messages and procedures <u>may differ from the actual screens, messages and procedures.</u> Substitute as appropriate when content has been modified.

The most recent version of the guide, as well as other related documents, is also available for download from the following website.

http://www.nec.com/

NEC Express5800 Series Express5800/T110f-S, R110f-1E, T110f-E

Installing Windows

This chapter describes how to install Windows. Read through this chapter to set up the Windows correctly.

- 1. Before Starting Setup Describes Service Packs and mass storage controllers which is supported with EXPRESSBUILDER.
- Setting Up the Operating System
 Describes the flow chart of setting up the operating system.
- Setting Up Windows Server 2012
 Describes how to set up Windows Server 2012.
- Setting Up Windows Server 2008 R2
 Describes how to set up Windows Server 2008 R2.
- 5. Setting Up Windows Server 2008 Describes how to set up Windows Server 2008.
- 6. Setting Up for Solving Problems Describes the features that must be set up in advance so that the server can recover from any trouble immediately and precisely.
- 7. Windows OS Parameter File

Describes how to create the parameter file.

I. Before Starting Setup

This section describes the points of using EXPRESSBUILDER to set up Windows operating systems.

I.I Starting EXPRESSBUILDER

Use the attached EXPRESSBUILDER to reconfigure the RAID system or re-install the OS.

Start EXPRESSBUILDER by either of the following two ways according to the media in which the EXPRESSBUILDER is stored. See *Chapter 2* (5. *Details of EXPRESSBUILDER*) in *Maintenance Guide* for more information.

EXPRESSBUILDER DVD

Insert the DVD to the optical disk drive of the server, and then restart the server by pressing <Ctrl> + <Alt> + <Delete> keys.

Internal Flash Memory (optional)

Remove a bootable disc from the optical disk drive of the server, and then press <F3> key when the following message appears on POST screen.

Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network

1.2 Supported Windows OS

EXPRESSBUILDER supports the following editions of Windows operating systems:

- **EB** : Setup with EXPRESSBUILDER
- OS

: Setup with Windows Standard Installer

| | Supported | | |
|------------------------|-----------------------------------|---------------|-------------------|
| Name of Windows OS | | EB | OS |
| | Windows Server 2012 Standard | ~ | ~ |
| Windows Server 2012 | Windows Server 2012 Datacenter | ~ | \checkmark |
| | Windows Server 2012 Foundation | √ *1 | √ *1 |
| | Windows Server 2008 R2 Standard | ~ | \checkmark |
| Windows Server 2008 R2 | Windows Server 2008 R2 Enterprise | ~ | ~ |
| | Windows Server 2008 Standard | ~ | ~ |
| Windows Server 2008 *2 | Windows Server 2008 Enterprise | ✓ | \checkmark |
| | | ✓ : Supported | - : Not Supported |

*1 : Only Express5800/T110f-S, T110f-E

*2 : Only Windows Server 2008 32-bit Edition

1.3 Supported Service Pack

The following combination of the installation media and Service Packs are supported by EXPRESSBUILDER.

| OS installation media | Service Pack | Supported |
|--|-----------------|-----------|
| Windows Server 2012 | No Service Pack | ✓ |
| Windows Server 2008 R2 with Service Pack 1 | No Service Pack | ✓ |
| Windows Server 2008 R2 | Service Pack 1 | ~ |
| | No Service Pack | ✓ |
| Windows Server 2008 with Service Pack 2 | No Service Pack | ~ |
| | Service Pack 2 | ✓ |
| Windows Server 2008 | No Service Pack | ✓ |

✓ : Supported – : Not supported

1.4 Mass Storage Controllers Supported by EXPRESSBUILDER

The table below lists the controllers for this server, supported by the attached EXPRESSBUILDER.

If an optional board not mentioned below is connected, set it up while referring to the instructions supplied with the board and *Chapter 1 (1.5 Using a Mass Storage Controller Not Supported by EXPRESSBUILDER*).

| < | T1 | 1 | 0f-S | > |
|---|-----------|---|------|---|
|---|-----------|---|------|---|

| | Windows Server 2012 | Windows Server 2008 R2 | Windows Server 2008 | | | |
|---|---------------------|------------------------|---------------------|--|--|--|
| RAID Controllers supporting OS installation by EXPRESSBUILDER | | | | | | |
| Onboard RAID Controller (LSI Embedded MegaRAID) | ✓ | \checkmark | ✓ | | | |
| N8103-149 RAID Controller (512MB, RAID 0/1) | \checkmark | \checkmark | ✓ | | | |
| N8103-150 RAID Controller (512MB, RAID 0/1/5/6) | ✓ | ✓ | ✓ | | | |
| N8103-151 RAID Controller (1GB, RAID 0/1/5/6) | ✓ | ✓ | ✓ | | | |
| N8103-152 RAID Controller (1GB, RAID 0/1/5/6) | \checkmark | \checkmark | ✓ | | | |
| N8103-171 RAID Controller (0MB, RAID 0/1) | \checkmark | \checkmark | ✓ | | | |
| Other options | | | | | | |
| N8103-142 SAS Controller | \checkmark | \checkmark | ✓ | | | |

✓: Supported by EXPRESSBUILDER

| | Windows Server 2012 | Windows Server 2008 R2 | Windows Server 2008 |
|--|-----------------------|------------------------|---------------------|
| RAID Controllers supporting OS | installation by EXPRE | SSBUILDER | |
| Onboard RAID Controller (LSI Embedded MegaRAID) | ~ | \checkmark | ~ |
| N8103-149 RAID Controller (512MB, RAID 0/1) | ~ | \checkmark | ~ |
| N8103-150 RAID Controller (512MB, RAID 0/1/5/6) | ~ | \checkmark | ~ |
| N8103-151 RAID Controller (1GB, RAID 0/1/5/6) | ~ | \checkmark | ~ |
| N8103-152 RAID Controller (1GB, RAID 0/1/5/6) | ~ | \checkmark | ~ |
| N8103-171 RAID Controller (0MB, RAID 0/1) | ~ | \checkmark | ~ |
| Other options | | | |
| N8103-142 SAS Controller | ✓ | \checkmark | ✓ |
| N8103-160 RAID Controller (1GB, RAID 0/1/5/6) | ✓ | \checkmark | ✓ |
| N8190-153 Fibre Channel Controller (1ch) | ~ | ✓ | ~ |
| N8190-154 Fibre Channel Controller (2ch) | ~ | \checkmark | ✓ |

✓: Supported by EXPRESSBUILDER

< T110f-E >

| | Windows Server 2012 | Windows Server 2008 R2 | Windows Server 2008 |
|--|----------------------|------------------------|---------------------|
| RAID Controllers supporting OS i | nstallation by EXPRE | SSBUILDER | |
| Onboard RAID Controller (LSI Embedded MegaRAID) | ✓ | ✓ | ✓ |
| N8103-149 RAID Controller (512MB, RAID 0/1) | \checkmark | \checkmark | ✓ |
| N8103-150 RAID Controller (512MB, RAID 0/1/5/6) | ✓ | ✓ | ✓ |
| N8103-151 RAID Controller (1GB, RAID 0/1/5/6) | ✓ | ✓ | ✓ |
| N8103-152 RAID Controller (1GB, RAID 0/1/5/6) | \checkmark | \checkmark | ~ |
| N8103-171 RAID Controller (0MB, RAID 0/1) | ~ | ✓ | ✓ |
| Other options | | | |
| N8103-142 SAS Controller | ✓ | ✓ | ~ |

✓: Supported by EXPRESSBUILDER

1.5 Using a Mass Storage Controller Not Supported by EXPRESSBUILDER

To install the Windows when using a mass storage controller not supported by EXPRESSBUILDER such as the newest RAID controller, follow the steps below.

You do not need to perform the following instructions usually.

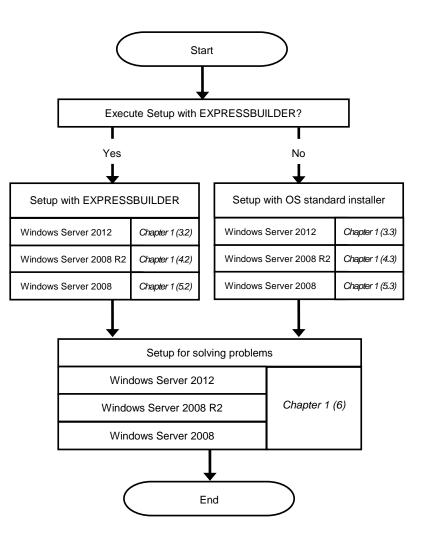
1. Have the instructions for the mass storage controller ready.

Note If the contents of this document differ from that of the mass storage controller, prioritize the contents of the controller's document.

- 2. If you use a RAID controller, follow the controller instructions to configure a RAID array.
- 3. See Setup with Windows Standard Installer of each Windows family in this guide.

2. Setting Up the Operating System

See the figure below to find a section appropriate to your OS installation.



3. Setting Up Windows Server 2012

Set up Windows Server 2012.

3.1 Before Starting Setup

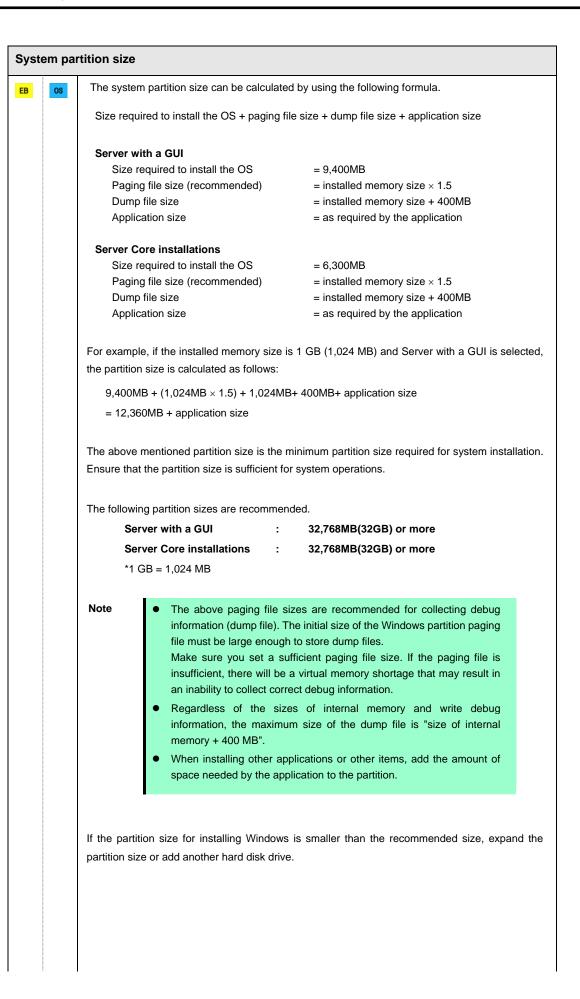
Read through the cautions explained here before starting setup.

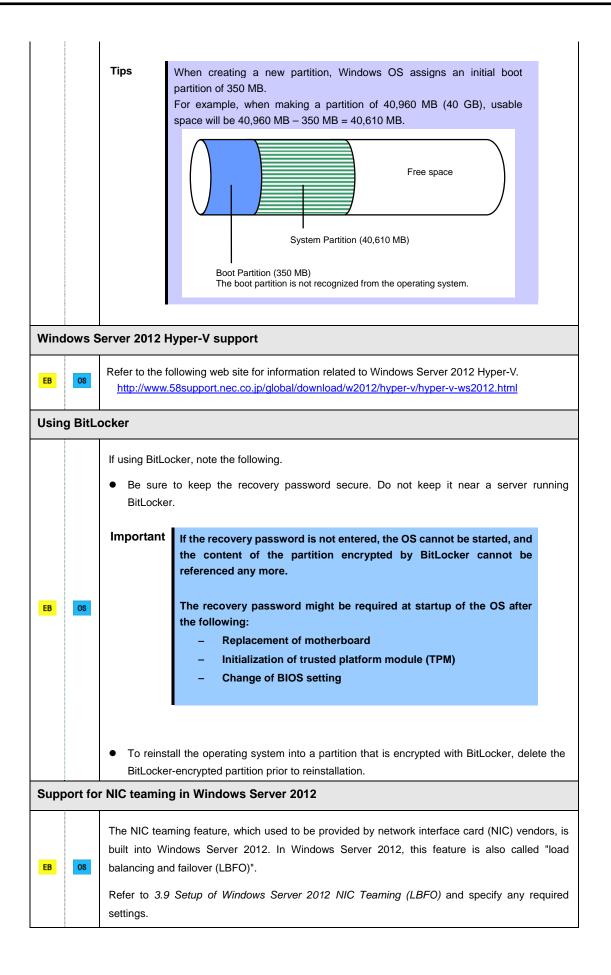
- EB
- : Confirm during Setup with EXPRESSBUILDER
- **0S** : Confirm during Setup with Windows standard installer

| Hard | lware o | configuration |
|------|---------|---|
| | | The following hardware configurations require special procedures. |
| ЕВ | OS | Reinstalling to a mirrored volume When you install Windows Server 2012 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume. |
| EB | 08 | Peripheral devices such as RDX/MO Remove an MO device before installing an OS. Some peripheral devices need to be halted before installation. Refer to the manual provided with the peripheral devices for how to set a device appropriate to installation. |
| EB | 08 | DAT, LTO, and similar media Do not set media that is unnecessary to installation during setup. |
| EB | 08 | Connecting to multiple hard disk drives (logical drives) For details on installing operating systems to a system in which multiple logical drives exist, refer to <i>Chapter 1</i> (3.8 Installation When Multiple Logical Drives Exist). |
| ЕВ | OS | Reinstalling to hard disk drives that have been upgraded to dynamic disks If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be reinstalled to it with the existing partitions. Set up the operating system with the Windows standard installer. |

Setup when mass memory is installed EB OS If mass memory is installed in your system, the large size of paging file is required at installation. Thus, the partition size for storing debug information (dump file) may not be secured. If you fail to secure the dump file size, use Windows standard installer for setup, and allocate the required file space to multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Specify another disk as the destination to store the debug information (required dump file size) by referring to Chapter 1 (6. Setup for Solving Problems). If the hard disk drive does not have enough space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another hard disk drive for the dump file. Note If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive. If sufficient space cannot be secured for the paging file, perform either of the following after setting up using Windows Standard Installer is complete. Specify a hard disk drive other than the system drive as the location to store the paging file for collecting memory dump Create a paging file of the installed memory size + 400 MB or more in a drive other than the system drive. The paging file that exists in the first drive (in the order of drive letter C, D, E, ...) is used as the temporary memory dump location. Therefore, the size of the paging file must be "installed memory size + 400 MB" or more. Paging files in dynamic volumes are not used for dumping memory. The setting is applied after restarting the system. Example of correct setting C: No paging file exists D: Paging file whose size is "installed memory size + 400 MB" or more \rightarrow The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.

| Example of | of incorrect setting 1 |
|--|---|
| C: Pag | ing file whose size is smaller than the installed memory size |
| D: Pag | ing file whose size is "installed memory size + 400 MB" or more |
| colled | baging file in drive C is used for collecting memory dump, but to may fail because the size of the paging file is smaller than the led memory size. |
| Example of | of incorrect setting 2 |
| D: Pag | ing file whose size is "installed memory size \times 0.5" ing file whose size is "installed memory size \times 0.5" ing file whose size is 400 MB |
| but c | tal paging file size in all drives is "installed memory size + 400 MB' ollection may fail because only the paging file in drive C is used fo cting memory dump. |
| Example of | of incorrect setting 3 |
| \rightarrow Pagin | ynamic volume) g files in a dynamic volume cannot be used for collecting memor b. Thus, collecting memory dump fails. |
| - | e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the r |
| ate the reg | istry shown below by using the Registry Editor and specify the n |
| eate the reg | istry shown below by using the Registry Editor and specify the n |
| ate the reg dicated Dum | istry shown below by using the Registry Editor and specify the map File. fying the file named "dedicateddumpfile.sys" in drive D> |
| te the reg cated Dum vhen speci | istry shown below by using the Registry Editor and specify the map File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl |
| ate the reg icated Dum When speci | istry shown below by using the Registry Editor and specify the map File. fying the file named "dedicateddumpfile.sys" in drive D> |
| when speci Key: Name: | istry shown below by using the Registry Editor and specify the map File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile |
| ate the reg dicated Dum When speci Key: Name: Type: Data: | istry shown below by using the Registry Editor and specify the map File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys |
| when speci When speci Key: Name: Type: Data: | istry shown below by using the Registry Editor and specify the r np File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys |
| eate the reg dicated Durr When speci Key: Name: Type: Data: lote the follo • Pay str | istry shown below by using the Registry Editor and specify the r np File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys |
| eate the reg dicated Dum When speci Key: Name: Type: Data: Data: Lote the follo • Pay str • The se | istry shown below by using the Registry Editor and specify the r np File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys |
| eate the reg dicated Durn When speci Key: Name: Type: Data: Data: Lote the follo Pay str The se Specify | istry shown below by using the Registry Editor and specify the r np File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys |
| eate the reg dicated Dum When speci Key: Name: Type: Data: Data: lote the folic Pay str The se Specify Dedica To colle | istry shown below by using the Registry Editor and specify the r ap File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys wing when specifying Dedicated Dump File: ict attention to edit the registry. tting is applied after restarting the system. r a drive that has free space of "installed memory size + 400 MB" or ted Dump File cannot be placed in dynamic volumes. ect memory dump by using Dedicated Dump File, a paging file is re |
| ate the reg icated Dum Vhen speci Key: Name: Type: Data: Data: Data: te the follo Pay str Pay str Pay str Dedica Dedica To colle any dri | istry shown below by using the Registry Editor and specify the r ap File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys wing when specifying Dedicated Dump File: ict attention to edit the registry. tting is applied after restarting the system. r a drive that has free space of "installed memory size + 400 MB" or ted Dump File cannot be placed in dynamic volumes. ect memory dump by using Dedicated Dump File, a paging file is re |





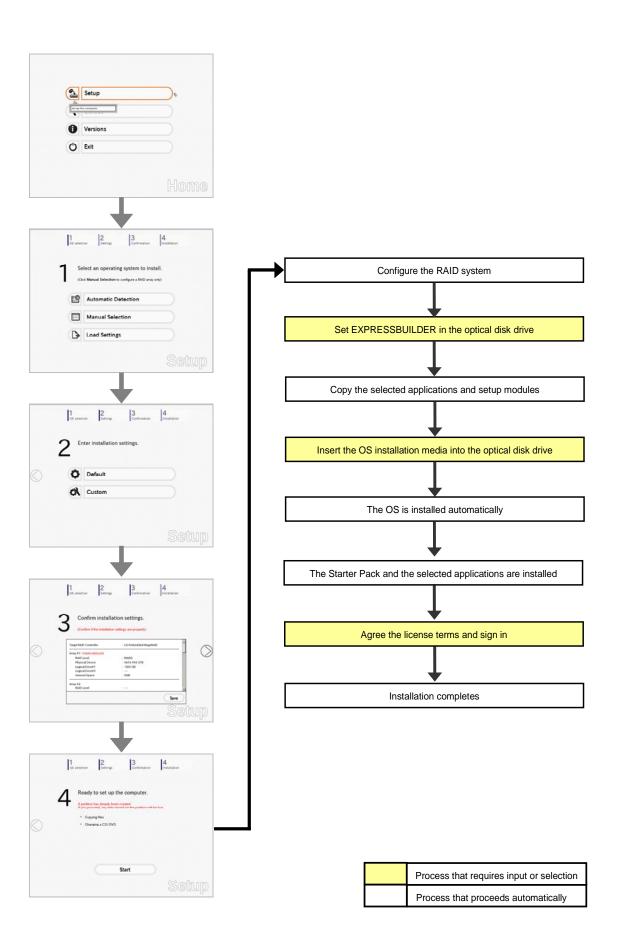
3.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

This feature automatically recognizes the RAID controller connected to the server and configures the RAID system. Therefore the hardware installation of the server needs to be finished by following "*User's Guide*".

| Important | Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: RAID settings Partition Settings Backing up user data, as needed, is recommended. Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup. |
|-----------|---|
| Note | The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP function may affect the system performance. Contact your sales representative for details. When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (4. RAID System Configuration)</i> in "<i>Maintenance Guide</i>" when creating RAID10. |
| Tips | Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally). For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>. |

3.2.1 Setup flow



3.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2012 DVD-ROM*)
- Either of the following EXPRESSBUILDER
 - EXPRESSBUILDER DVD
 - Internal Flash Memory (optional)
- > Prepare if needed:
 - Removable media for Windows OS parameter file

Tips

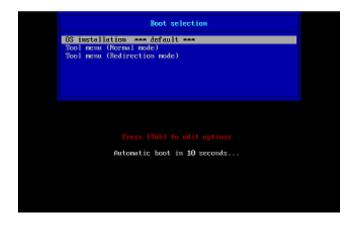
- EXPRESSBUILDER may be distributed in Internal Flash Memory.
 EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
 If you are using a conver with Internal Flash Memory installed you can install the server.
- If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD.

3.2.3 Setup procedure

During Setup with EXPRESSBUILDER, parameters are specified through the wizard. You can also save the parameters as one file (a parameter file) to removable media.

Read through the items in *Chapter 1* (*3.1 Before Starting Setup*) prior to installing Windows.

- 1. Turn peripheral device (such as a display) power on, and then turn the server power on.
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 3. Select **OS installation** *** **default** ***. You will automatically advance to step 4, with no need for further input.



The following window appears.

Note



The server starts from EXPRESSBUILDER.



4. Select English on the language selection window, and then click OK.



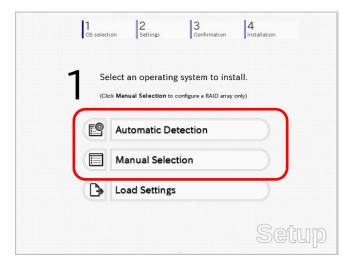
5. Click Setup.

| | Setup | ß |
|---|---------------|---|
| | the computer. | |
| 0 | Versions | |
| Ø | Exit | |

- 6. On the OS selection menu, select the OS to install or specify the parameter file.
- ☐ When not using parameter file : Go to Step 7.☐ When using a parameter file : Go to Step 8.

Note When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

7. When not using a parameter file, select an OS by either of the following two ways:



To automatically detect the OS on the OS installation media:

(1) Click Automatic Detection.

| 1 2 3 OS selection Settings Confirmation | 4 nstallation |
|---|------------------|
| Select an operating system to install. (Click Manual Selection to configure a RAID array only) | |
| Automatic Detection | |
| Select an operating system automatically with an installation disc | |
| | Setup |
| | Serab |

Insert the OS installation media, and then click $\ensuremath{\text{OK}}$.

| Question | | | |
|----------|------------------------|--------|---------------------------------------|
| | To check your OS insta | | the computer. lessage ID : B2014] |
| | | [W | lessage ID : B2014 J |
| 0 | | | |
| | | | |
| | | | |
| | | | |
| | ОК | Cancel | |

(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| s | elect an operating system to i | nstall. |
|----------|--|------------|
| (C | lick Manual Selection to configure a RAID ar | rray only) |
| E | Automatic Detection | |
| | Manual Selection | |
| B | Load Settings | |

To select an OS from the menu:

(1) Click Manual Selection.

| | lect an operating | | |
|----------------------|--|-------------------------|------|
| (Clic | k Manual Selection to co | onfigure a RAID array o | nly) |
| E | Automatic Det | ection | |
| | Manual Select | ion | ø |
| You can the insta | select the target OS of illation from the menu. | | |

(2) From the Windows list, select Windows Server 2012, and then click OK.



(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| 1 | Select an operating system to in | stall. |
|---|---|----------|
| 1 | Click Manual Selection to configure a RAID arra | ay only) |
| E | Automatic Detection | |
| • | Manual Selection | |
| | Load Settings | |

8. When *using* the parameter file, click Load Settings.

| 1 OS select | ion 2 3 Settings Confirmation | 4 Installation |
|----------------|----------------------------------|-------------------|
| | lect an operating system to in | |
| 2 | Automatic Detection | |
| | Manual Selection | |
| Þ | Load Settings | ₽ |
| Load ii | stallation settings. | Setup |

Follow the on-screen instruction to load the parameter file (*.tre).

| Places | Name | ▼ Modified |
|---------------------|----------|-----------------------|
| File System | C cdrom1 | 07/26/2012 Unknown |
| | | |
| ♣ Add — <u>R</u> en | iove | ▼ Z Cancel |

Tips

For the removable media in which the parameter file is saved, see "/mnt/usr_connect/usb*" (* indicates a number).

Click \bigcirc on the right side of the screen.

| | elect an operating system to in | |
|-----|--|----------|
| (C | ick Manual Selection to configure a RAID arr | ay only) |
| E | Automatic Detection | |
| | Manual Selection | |
| < D | Load Settings | |

When the parameter file is correctly loaded, the setting is determined. Click **Custom** to check and modify the setting in the wizard. Click \bigcirc on the right side of the screen.

| 2 | nter installation settings | |
|------|----------------------------|------|
| 2 | | |
| 0 | Default | |
| ~ 01 | Custom | |
| | | |
| | | |
| | | Setu |

 \rightarrow Go to step 10.

9. Specify the setup parameters by using either of the following methods:

|) [| nter installation settings | i. |
|-----|----------------------------|----|
| - | 1 | |
| Ø | Default | |
| 5 | Custom | |

Use Default:

(1) Click Default.

| | 1 OS selection 2 Settings 3 Confi | rmation Installation |
|------------|--|----------------------|
| | 2 Enter installation settings. | |
| \bigcirc | Default | ₽ |
| | Specify minimum settings for the installation. Default volues are used for other settings. | |
| | | |
| | | Setup |

(2) Select the edition of the OS to install from the Edition list. Type the password, and then click Finish.

| Enter the minimum settin If you want to use the Wi | gs to set up the compu ndows standard installe | | |
|---|---|-------------|------------|
| - Basic Settings- | | | |
| Operating system | : Windows S | erver 2012 | |
| Edition | : Standard(| GUI server) | 4 |
| Language | : English 🔻 | | |
| Typing Administra | or Password | | |
| Administrator Pa | ssword | : | (Required) |
| Reenter Admini | trator Password | : | (Required) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Finish | | Cancel |

(3) Click \bigcirc on the right side of the screen.

| Enter installatio | n settings. | |
|-------------------|-------------|--|
| Default | | |
| Custom | | |

 \rightarrow Go to step 10.

Use Custom:

(1) Click Custom.

| 2 Enter installation settings. | Default | 1 OS selectio | n Settings | 3 Confirmation | 4 Installation |
|--------------------------------|---|------------------|-----------------------|-------------------|-------------------|
| | Custom | 2 Ent | er installation setti | ngs. | |
| Custom R | Specify all settings for the | 2 | Default | | |
| | Specify all settings for the installation. | | | | |

(2) Use this menu to configure the RAID system with the RAID controller detected automatically.

Note

When using an onboard RAID controller (LSI Embedded MegaRAID):

This function does not support the creation of RAID10 by using the onboard RAID controller. Refer to *Chapter 2 (4. RAID System Configuration)* in *"Maintenance Guide"* when creating RAID10.

| If the RAID controller is not | | ed to the following RAID contr hardware configuration. | |
|--|-----------|---|-------------|
| Device Information | | | |
| RAID Controller | | : LSI Embedded MegaRAID | Detail |
| Number of Physical D | evices | : 1 | |
| -Summary of RAID | | | |
| Array #1 RAID0 (1disk) Logical Drive1 (186 | 1GB) | | x |
| RAID Configuration | | | V |
| Skip a RAID Conf | iguration | | |
| | | | 1 / 10 Page |
| | | | |

When creating new logical drives

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives according to the wizard.

Important If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.

When skipping the creation of new logical drives

Select the Skip a RAID Configuration check box, and then click Next.

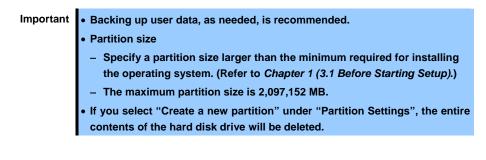
(3) Check the settings specified for **Basic Settings**.

Choose **Install Windows using EXPRESSBUILDER**, modify the Edition, Language and Time zone settings as needed, and then click **Next**.

| You | II Windows by using the dows standard install can install easily both Wi RESSBUILDER. | er. | | | |
|-----|---|------------|--------------------|---------------|-------------|
| E B | lasic Settings | | | | |
| | Operating system | : W | indows Server 2012 | | |
| 2 | - | | | | |
| | Copy of the difference of | Standard(G | DER GUI server) | [▼ Canada) | |
| | | | | | 4 / 10 Page |
| | Back | Next | | | Cancel |

 Check the settings specified for Partition Settings. Modify the settings as needed, and then click Next.

| | system partition | | | 10 AD 11 TODA 1935 |
|---------------|--------------------|--|------------------------|-----------------------------------|
| | | first hard disk drive ceeded cannot be us | | rtition size can be set within 2T |
| | | | he following red-frame | d area is deleted. |
| | | | | |
| Current parts | tions(the red-fram | ed area will be deleted |): | |
| FAT32 | Data partition | Free space | | |
| (2.0GB |) (40.4GB) | (1819GB) | | |
| Partition | Settings | 2007 - 2019 | | |
| - 6.00 | te a new partitio | | | |
| 1000 | | n | | |
| | Use all | | | |
| • | Size | | 40 (GB) | *1TB=1024GB |
| | | | (17 GB - 1861 GB) | |
| | | | | |
| _ | | | | |
| | | | | |
| | | | | 5 / 10 Page |
| | | | | |
| | | | | |



(5) Enter the user information, and then click Next.

| ars | |
|---------------------------|---|
| re than 6 characters, and | must contain characters |
| s (numbers/uppercase/io | wercase/signs). |
| | |
| : 🗹 Auto | |
| 1-1993-0123456 | (Required) |
| : Administrator | |
| 0 | (Required) |
| | (Required) |
| | |
| | |
| | |
| | |
| | |
| | 6 / 10 Pag |
| | 0 / TO Fag |
| 10.7 | |
| | s (numbers/uppercase/lo ∴ Auto 1-1993-0123456 ∴ Administrator ∴ |

Note

Computer name and Administrator Password are required parameters. Enter Administrator Password that satisfies the following conditions:

- Contains 6 or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

- Tips
 The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name.
 If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Reenter Administrator password text boxes.
- (6) Check the settings specified for Network Protocols. Modify the settings as needed, and then click Next.

| If you want to type an IP a | ol. ddress, choose Custom | Settings, click Adv | anced. |
|-----------------------------|-------------------------------------|---------------------|-------------|
| -Network protocols - | | | |
| Standard set | - | | |
| Custom settin | Tell | 1 | |
| Standard adap | ter - Internet Protocol (IPw | 4) 🔻 | Advanced |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | 7 / 10 Page |
| | Next | | Cancel |
| Back | | | |

 Tips
 The order of entry in Custom settings may differ from the numbering of LAN ports.

 Note
 Even when an optional network board is connected, Custom settings only shows standard network boards.

 After finishing Setup with EXPRESSBUILDER, specify the optional network settings again.

(7) Specify the domain or workgroup.Check the settings, modify them as needed, and then click Next.

| Choose Workgroup or Domain, | a workgroup. and then enter parameters. | |
|-----------------------------|--|-------------|
| ☐ | | |
| Workgroup name | WORKGROUP | |
| O Join a domain | | |
| Domain name | : | |
| Account name | | |
| Password | : | |
| Reenter password | : | |
| | | 8 / 10 Page |
| | | |

(8) Check the settings of Windows components. Modify the settings as needed, and then click Next.

| Choose Windows components you want to | install. | | |
|---|--|---------------|-------------------|
| encese minuona componenta you nan te | | | |
| - Server roles | | | |
| Web server(IIS) | Print and Document services | | |
| DHCP server | File services | | |
| DNS server | Hyper-V | | |
| Windows features | | | |
| SNMP service | Adva | anced | |
| Simple TCP/IP services | | | |
| WINS server | | | |
| | | | |
| | 9/ | 10 Page | |
| | | | |
| Back Next | Cano | el | |
| | | | |
| | | | |
| | | | Server with a GUI |
| | | | Server with a GUI |
| | | eralp | Server with a GUI |
| Wizard | | ennb | Server with a GUI |
| Wizard Choose Windows components you want to | | euulp | Server with a GUI |
| Wizard Choose Windows components you want to | install. | | Server with a GUI |
| | install. | | Server with a GUI |
| | Lo La | | Server with a GUI |
| Choose Windows components you want to | install. | | Server with a GUI |
| Choose Windows components you want to | Print and Document services File services | | Server with a GUI |
| Choose Windows components you want to | Print and Document services | | Server with a GUI |
| Choose Windows components you want to | Print and Document services File services | | Server with a GUI |
| Choose Windows components you want to Server roles Web server(IIS) DHCP server DNS server | Print and Document services File services Hyper-V | | Server with a GUI |
| Choose Windows components you want to Server roles Web server(IIIS) DHCP server Windows features Windows features | Print and Document services File services Hyper-V | nced | Server with a GUI |
| Choose Windows components you want to | Print and Document services File services Hyper-V | | Server with a GUI |
| Choose Windows components you want to | Print and Document services File services Hyper-V | ned | Server with a GUI |
| Choose Windows components you want to | Print and Document services File services Hyper-V Adva | anced 10 Page | Server with a GUI |
| Choose Windows components you want to | Print and Document services File services Hyper-V Adva | 10 Page | Server with a GUI |

(9) Check the settings of applications. Modify the settings as needed, and then click Finish.

| Choose applications you v For details about each app | | ion. | |
|---|--------|-----------|---|
| List of applic | ations | | Selected applications |
| | * | | NEC ESMPRO Agent |
| | | Add >> | Express Report Service Express Report Service(HTTPS) |
| | | | Universal RAID Utility |
| | | << Delete | Microsoft .NET Framework Version 3.5.1 |
| | | | ExpressUpdate Agent |
| | × | | 1 |
| - Description | | | |
| | | | |
| | | | |
| | | | 10 / 10 Page |
| | Finish | | Cancel |

On the following screen, click \bigcirc on the right side of the screen.

| Default Custom | _ | ion 2 settings | Confirmation | Installation | |
|-------------------|-----|-------------------|--------------|--------------|---|
| Custom | 2 | | | | ٢ |
| | ~ Ø | Custom | | | U |

10. Check the parameter settings.

To save the settings, click Save.

| | Confirm instal | lation settings. | |
|---|-------------------------------------|---------------------------|------|
| | O (Confirm if the installati | on settings are properly) | |
| | | | |
| | Target RAID Controller | : LSI Embedded MegaRAID | |
|) | Array #1 : Initialized(Quick) | | (|
| | RAID Level | : RAID0 | |
| | Physical Device | : SATA #00 2TB | |
| | Logical Drive#1 | : 1861GB | |
| | Logical Drive#2 | | |
| | Unused Space | : OGB | |
| | Array #2 | | |
| | RAID Level | : | |
| | | (| Save |
| | | | Jave |

Click \bigcirc on the right side of the screen.

11. The setup process starts.

Click Start to continue setup.

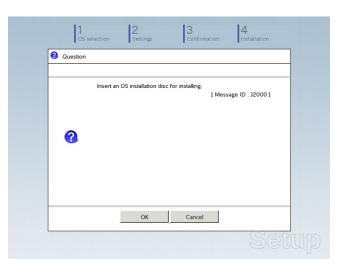
| | 1 2 3 4 Cos selection Settings Confirmation Installation |
|------------|--|
| | Ready to set up the computer. |
| | A partition has already been created. If you proceed, any data stored on the partition will be lost. |
| 0 | Configuring RAID system Copying files |
| \bigcirc | Changing media |
| | |
| | Start |
| | Setup |

If you need to suspend setup due to reasons such as backing up data, restart the setup process from the beginning.

12. If the server has started from the EXPRESSBUILDER DVD, insert the EXPRESSBUILDER disk into the optical disk drive, and then click **OK**.

| ert EXPRES | SBUILDER | | | |
|------------|----------|--------|-----------|--------------|
| | | | [Message | ID : J2002] |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | ОК | Cancel | | |

13. Insert the OS installation media into the optical disk drive, and then click OK.



Windows Server 2012 is installed automatically.

14. The Starter Pack and the selected applications are automatically installed.

| 1 /2 2 /2 | | |
|--------------------------|--|---|
| Installing Starter Pack. | | |
| Please wait for a while. | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 1 /2 1 /2 | | |
| Installing applications. | | |
| Please wait for a while. | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | 5 |

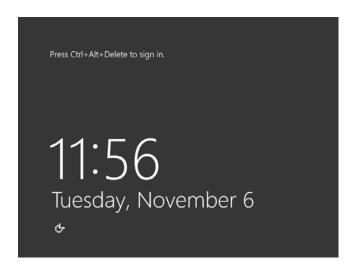
Screen displayed when Starter Pack is being installed

Screen displayed when an application is being installed

Read the terms of License Agreement. If you agree, select the I accept the license terms for using Windows. check box, and then click Accept (only in the server with a GUI).

| P | fease read the license terms. |
|---|---|
| | BEROSOFT SOFTWARE LICENSE THRMS |
| | ICROSOFT WINDOWS SERVER 2012 STANDARD |
| | hese license terms are an agreement between you and |
| | the server manufacturer that distributes the software with the server; or |
| | the software installer that distributes the software with the server. |
| | Nexue read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also pply to any Microsoft |
| | updates, |
| | supplements, |
| | Internet based services, and |
| | support services |
| | If this observe, unless other terms accompany those items, J so, those terms apply, J you obtain updates or supplements directly non-Microsoft, Microsoft, and the manufactures or installer, Kennes those to year. Finited paper kennes terms, which may came this provides the global or shy observe terms. |
| ī | I accept the license terms for using Windows |

16. Press the CTRL+ALT+DEL keys to sign in.



On the following screen, type the password you have set.



17. Click OK.

| The Setup with EXPRESSBUILDER has been successfully completed. | |
|--|----|
| | |
| | |
| | |
| | |
| | |
| | |
| | ок |
| | |
| | |

- 18. Follow the instructions described in Chapter 1 (3.5 Setting Up Device Drivers) to set up the device drivers.
- 19. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 20. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with EXPRESSBUILDER is now complete.

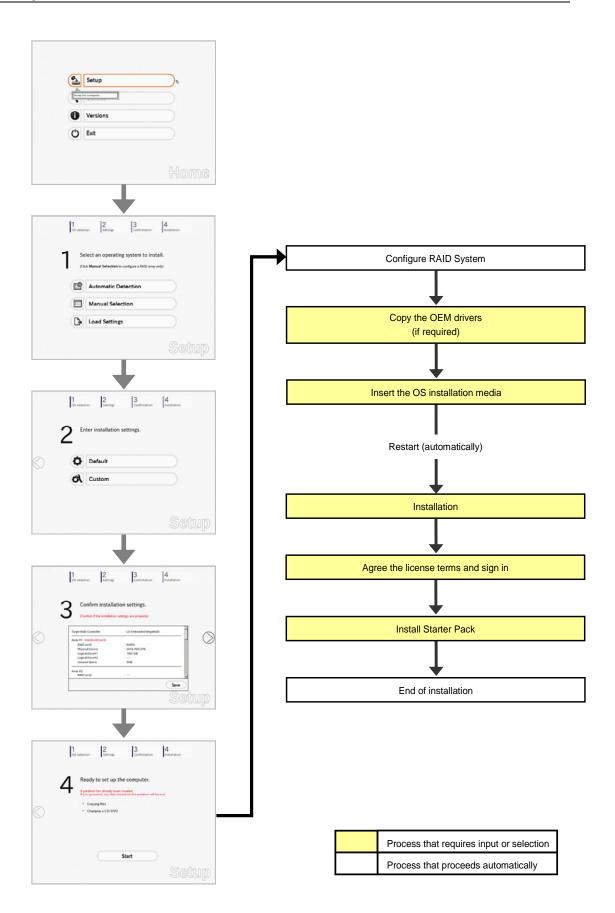
3.3 Setup with Windows Standard Installer

This section describes how to install Windows with Windows Standard Installer.

This feature automatically recognizes the RAID controller connected to the server and configures the RAID system. Therefore the hardware installation of the server needs to be finished by following "*User's Guide*".

| Important | Setup with Windows standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: -RAID settings Backing up user data, as needed, is recommended. |
|-----------|--|
| Note | When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (4. RAID System Configuration</i>) in "Maintenance Guide" when creating RAID10. |
| Tips | Setup with Windows Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally). For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>. |

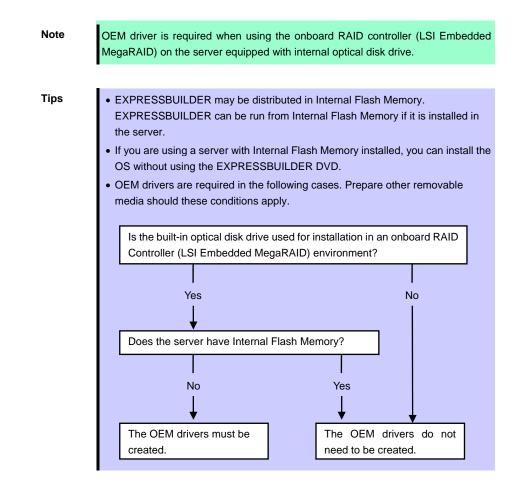
3.3.1 Setup flow



3.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as Windows Server 2012 DVD-ROM)
- Either of the following EXPRESSBUILDER
 - EXPRESSBUILDER DVD
 - Internal Flash Memory (optional)
- Prepare if needed:
 - Removable media for Windows OS parameter file
 - Removable media for creating OEM drivers (Windows Server 2012)

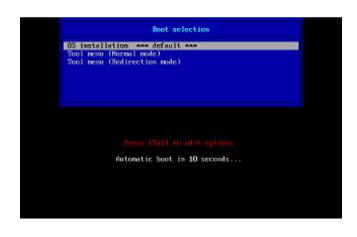


3.3.3 Setup procedure

Note

Read through the items in *Chapter 1* (3.1 *Before Starting Setup*) prior to installing Windows.

- 1. Turn peripheral device (such as a display) power on, and then turn the server power on.
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- Select OS installation *** default ***. You will automatically advance to step 4, with no need for further input.



The following window appears.



The server starts from EXPRESSBUILDER.



4. Select **English** on the language selection window, and then click **OK**.



5. Click Setup.

| | Setup | ß |
|--------|----------|---|
| , , | Versions | |
| ٥ | Exit | |

6. On the **OS selection** menu, select the OS to install or specify the parameter file.
□ When not using parameter file : Go to Step 7.
□ When using a parameter file : Go to Step 8.

Note When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

7. When not using a parameter file, select an OS by either of the following two ways:

| 1 OS selection | 2 Settings | 3 Confirmation | 4 Installation |
|-------------------|---------------|---|-------------------|
| | | g system to ins configure a RAID array | |
| | Automatic De | etection | |
| | Manual Selec | ction | |
| C> L | oad Setting | 5 | |
| | | | Setup |

To automatically detect the OS on the OS installation media: (1) Click Automatic Detection.

| 1 2 3 CS selection Settings Confirmation | 4 Installation |
|---|-------------------|
| Select an operating system to insi (Click Manual Selection to configure a RAID array | |
| Automatic Detection | ₽ |
| Select an operating system automatically with an installation | |
| Load Settings | |
| | Setup |

Insert the OS installation media, and then click **OK**.

| | OS selection | 2 Settings | 3 Confirmation | 4 Installation | |
|---|--------------|-----------------------|--------------------------------------|-------------------------------|-----|
| 0 | Question | | | | |
| | To chec | k your OS installatio | n disc, insert it into the [Messa | computer. Ige ID : B2014] | - |
| | 3 | | | | |
| | | | | | |
| | | ОК | Cancel | | |
| | | | | | Tup |

(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

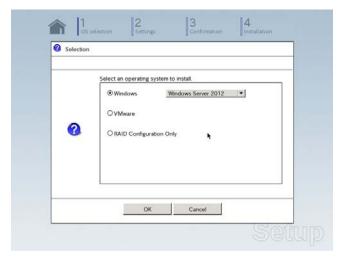
| | elect an operating system to install. Click Manual Selection to configure a RAID array only) |
|-----|---|
| í E | Automatic Detection |
| | Manual Selection |
| B | Load Settings |

To select an OS from the menu:

(1) Click Manual Selection.

| 1 | Select an operating system (Click Manual Selection to configure a R | |
|---|--|---|
| | Automatic Detection | |
| | Manual Selection | Ø |
| | You can select the target OS of the installation from the menu. | |

(2) From the Windows list, select Windows Server 2012, and then click OK.



(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| 1 | Se | lect an operating system to in | istall. | |
|----|----------|---|----------|--|
| I | (Clie | :k Manual Selection to configure a RAID arr | ay only) | |
| | : | Automatic Detection | | |
| ~(| | Manual Selection | | |
| | B | Load Settings | | |

8. When *using* the parameter file, click Load Settings.

| 03 sacca | on Settings | Commutari | Installation |
|----------|---|-----------|--------------|
| | lect an operatin * Manual Selection to | | |
| 2 | Automatic De | etection | |
| | Manual Selec | ction | |
| B | Load Setting | 5 | N |
| Load in | stallation settings. | | Sefu |

Follow the on-screen instruction to load the parameter file (*.tre).

| Places | Name | ▼ Modified |
|-----------------------------|------------------|-----------------------|
| File System | Cdrom1 b usb1 | 07/26/2012 Unknown |
| | | |
| | 2 | |
| | | |
| | | |
| | | |
| ∯ <u>A</u> dd → <u>R</u> em | ove | - |
| | | 🗶 Cancel 🕞 Open |

Tips

For the removable media in which the parameter file is saved, see "/mnt/usr_connect/usb*" (* indicates a number).

Click \bigcirc on the right side of the screen.

| | lect an operating sys | | |
|-----|-----------------------|------|---|
| E | Automatic Detec | tion | ſ |
| | Manual Selection | 1 | C |
| < B | Load Settings | | |

When the parameter file is correctly loaded, the setting is determined. Click **Custom** to check and modify the setting in the wizard. Click \bigcirc on the right side of the screen.

| | Enter installation : | settings. | |
|-----|----------------------|-----------|-----|
| 2 | | Ū | |
| ¢ | Default | | |
| ~ 0 | Custom | | |
| | | | |
| | | | |
| | | | Set |

- \rightarrow Go to step 10.
- 9. Click Custom.

| | 1 2 3 OS selection Settings Conf | firmation Installation |
|---|--|------------------------|
| | Enter installation settings. | |
| С | Default | |
| ~ | Custom | ß |
| | Specify all settings for the installation. | |
| | | Setup |

(1) Use this menu to configure the RAID system with the RAID controller detected automatically.

Note

When using an onboard RAID controller (LSI Embedded MegaRAID):

This function does not support the creation of RAID10 by using the onboard RAID controller. Refer to *Chapter 2 (4. RAID System Configuration)* in "*Maintenance Guide*" when creating RAID10.

| Install an operating system to If the RAID controller is not | | ed to the following RAID cont hardware configuration. | roller. |
|---|----------|--|-------------|
| | | | |
| Device Information | | | 102 bios |
| RAID Controller | | : LSI Embedded MegaRAID | Detail |
| Number of Physical D | evices | : 1 | |
| -Summary of RAID | | | |
| Array #1 | | | * |
| RAIDO (1disk) Logical Drive1 (1861 | (GB) | | |
| | | | |
| RAID Configuration | | | |
| Skip a RAID Confi | guration | | |
| | | | |
| | | | 1 / 10 Page |
| | | | |
| | Next | | Cancel |

When creating new logical drives

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives according to the wizard.

Important If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.

When skipping the creation of new logical drives

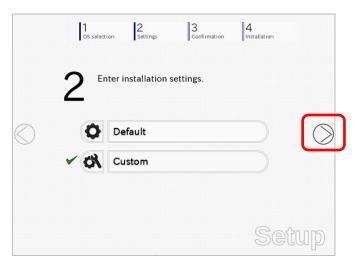
Select the Skip a RAID Configuration check box, and then click Next.

(2) Check the settings specified for **Basic Settings**.

Choose **Use Windows standard installer**, modify the settings as needed, and then click **Next**. If you need to copy the OEM driver, select the **Copy OEM drivers to removable media** check box.

| Wir | all Windows by using the adows standard install a can install easily both W PRESSBUILDER. | er. | | | |
|-----|---|--|---------------------|-----------------|-------------|
| Γ | Basic Settings Operating system | : V | Vindows Server 2012 | ! | |
| | Ouse Windows state | andard installer Irivers to removable | media | | |
| | O Install Windows using EXPRESSBUILDER Edition : StandardFull Installation) Language : English/♥ Time zone : (UTC-08.00) Pacific Time | | ull Installation) | [♥ Canada) ■ | 1 |
| | | | | | 4 / 10 Page |
| - | Rack | Next | | | Cancel |

On the following screen, click \bigcirc on the right side of the screen.



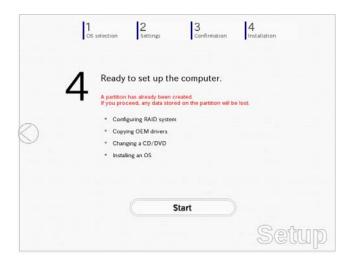
10. Check the parameter settings. To save the settings, click **Save**.

| | 2 3 Settings Confirmation | Installation |
|------------------------|---|--------------|
| | n installation settings. | |
| | Thistallation settings. | |
| (Confirm if t | the installation settings are properly) | |
| | | |
| Target RAID Control | ller : LSI Embedded MegaRAID | |
| Array #1 : Initialized | (Quick) | (|
| RAID Level | : RAIDO | |
| Physical Devic | e : SATA #00 2TB | _ |
| Logical Drive# | 1 : 1861GB | |
| Logical Drive#: | 2 | |
| | : 0GB | |
| Unused Space | | |
| Unused Space | | |
| | : | |
| Array #2 | : | |
| Array #2 | : | Save |

Click \bigcirc on the right side of the screen.

11. The setup process starts.

Click Start to continue setup.



If you need to suspend setup due to reasons such as backing up data, restart the setup process from the beginning.

12. Continue setup according to the on-screen messages.

When copying the OEM driver, the following message appears.

Insert the removable media into the disk drive, and then click $\ensuremath{\textbf{Yes}}$.

| 2 | Question | | |
|---|----------|---|--|
| | | Copy OEM drivers (Windows Server 2012). Set removable media, and then click Yes . | |
| | | [Message ID : G2000] | |
| | ? | | |
| | | | |
| | | | |
| | | | |
| | | Yes No | |

When the following screen appears, insert the OS installation media into the disk drive, and then click OK.

| | Insert an OS installatio | on disc for installing. | [Message ID : J2 | 000] |
|---|--------------------------|-------------------------|-------------------|-------|
| | | | | |
| 3 | | | | |
| | | | | |
| | | | | |

13. The server reboots automatically.

If you use Internal Flash Memory, press <F3> key when the following message appears during POST.

Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network

Note

Since the OS installation media is set in the optical disk drive in Step 12, boot the system from the optical disk drive having higher boot priority, not from Internal Flash Memory.

14. Run from the OS installation media.

If a bootable operating system is already installed on the hard disk drive, press <Enter> key while the message "Press any key to boot from CD or DVD..." is displayed on the top of the screen.

The boot sequence proceeds and the message "Windows is loading files..." appears.

Note

If "Windows is loading files..." message does not appear, <Enter> key was not pressed correctly. Reboot and retry.

This step is unnecessary if no bootable operating system exists.

15. Click Next.



16. Click Install now.

Windows setup starts.



- If the following message appears, go to step 17.
- If it does not, go to step 19.



| Tips | • The above message appears if you are using an onboard RAID controller (LSI |
|------|--|
| | Embedded MegaRAID) in an environment equipped with an internal DVD drive. |
| | • When this message appears, the message will say "CD, DVD, or USB flash |
| | drive", but use Internal Flash Memory or removable media with the OEM |
| | drivers copied onto it. |

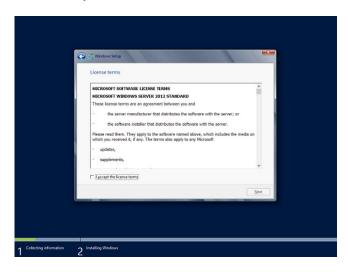
17. Select the destination, and then click **OK**.

| If using OEM drivers (made at | step 12) |
|--------------------------------|---|
| Removable media | :\OEM_driver\ws2012\megasr1 |
| If using Internal Flash Memory |] |
| Internal Flash | Memory:\001\win\winnt\oemfd\ws2012\megasr1 |
| Tips | The volume label of Internal Flash Memory is INTER-FLASH. |

- 18. Select LSI Embedded MegaRAID, and then click Next.
- Select the operating system to install, and the click Next.
 The screen display differs depending on an OS installation media you are using.

| | g∰ Windows Setup | | | |
|------------------------|---|--------------------|--|---|
| | a moon stop | | and the second s | |
| | Select the operating system you want to install | | | |
| | Operating system | Architecture | Date modified | |
| | Windows Server 2012 Standard (Server Core Installation) | x64 | 7/26/2012 | |
| | Windows Server 2012 Standard (Server with a GUI) | x64 | 7/26/2012 | |
| | application that cannot be run on a Server Core installation. supported. You can switch to a different installation option lo Options." | iter. See "Windows | Server Installation | |
| | | | Ne | 4 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Collecting information | nstalling Windows | | | |

20. When the following window appears, confirm the content of the license agreement. If you agree, select **I accept the license terms** and then click **Next**.



21. When the following message appears, select the installation type. Select Custom: Install Windows only (advanced) in this case.

| G | 🖉 Windows Setup | |
|----------------------------|---|--|
| | Which type of installation do you want? | |
| | Upgrade: Install Windows and keep files, settings, and applications The files, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already sumning on the computer. | |
| | Sustance: Install Windows only (advanced) The files, settings, and applications aren't moved to Windows with this option. If you want to make sharper to particles and driver, and the computer using the installation disc. We recommend bucking up your files before you continue. | |
| | Lidø me decide | |
| | | |
| | | |
| 1 Collecting information 2 | stalling Windows | |

22. "Where do you want to install Windows?" window appears.

Note

If the driver was loaded in steps 17 and 18, or if a RAID Controller is not used, go to step 26.

Click Load Driver.

If the following message appears, replace the OS installation media and EXPRESSBUILDER DVD in the optical disk drive, and then click **Browse**.

```
Load Driver

To install the driver needed to access your hard drive, insert

the installation media containing the driver files, and then click

OK.

Note: The installation media can be a floppy disk, CD, DVD, or

USB flash drive.

[Browse] [OK] [Cancel]
```

Tips

- If using Internal Flash Memory, you do not need to remove the OS installation media.
 At this time, the message "The Installation media can be a floppy disk, CD, DVD, or USB flash drive." Appears on the screen, use the supplied EXPRESSBUILDER DVD or Internal Flash Memory.
- 23. Specify the following locations, and then click OK.

(When using EXPRESSBUILDER, select the optical disk drive. When using Internal Flash Memory, select the volume of INTER-FLASH.)

If using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive:

```
\001\win\winnt\oemfd\ws2012\megasr1
```

Tips

The driver does not have to be loaded at this time if it was loaded in steps 17 and 18.

24. Select the necessary driver from the driver list shown, and then click Next.

If using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive [LSI Embedded MegaRAID]

25. If you used EXPRESSBUILDER DVD, remove it and then insert the OS installation media.



26. If the hard disk drive does not contain Windows, click Drive options (advanced).

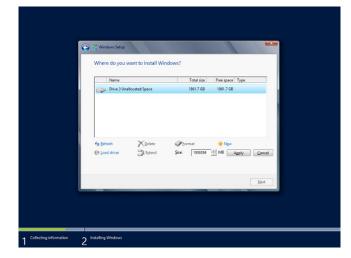
| Name | Total size | Free space Type | |
|-----------------------------|------------|--------------------------|--|
| Drive 3 Unallocated Space | 1861.7 GB | 1861.7 GB | |
| €g Batresh ⓓ Load driver | | Drive options (gdvanced) | |
| | | Nex | |

If the hard disk drive already contains an OS, go to the next step. If a partition has already been created, go to step 30.

27. Click Next.

| Name | | Total size | Free space Type |
|------------------------------|----------------------|------------|-----------------|
| Drive 3 Un | allocated Space | 1861.7 GB | 1861.7 GB |
| €a Batricah ⓓ Load driver | X Delete 2 Estend | Format | ₩ Ngw |
| | | | |

28. Specify the partition size in the text box, and the click Apply.



Tips

When creating a new partition and installing the OS, a 350 MB boot partition is created. When the following window appears, click **OK**.

| - | titions for system files. |
|---|---------------------------|
| | |
| | |

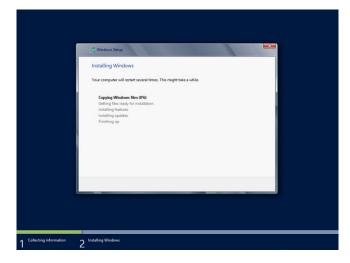
- 29. Select the partition created in step 27, and then click Format.
- 30. Select the created partition, and then click Next.

| Partilion 1: System Reserved 3500 MB 3200 MB Syste Partilion 2 1861.4 GB 1861.4 GB Prim | 350.0 MB | | |
|--|-----------|-------------|---------------------------|
| Partition 2 1861.4 GB 1861.4 GB Prim | | | |
| | 1861.4 GB | Partition 2 | Drive 3 Part |
| Kgelete ∉ format ⊕Nge Gelfernd | ✓ Format | | fg Befresh Loed driver |



The number of partitions displayed differs depending on the hardware configuration.

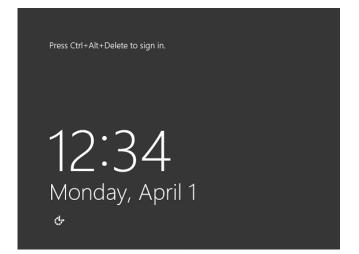
When the following message appears, Windows installation starts automatically.



31. Type a password and click **Finish**.

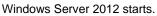
| | Setting | S | |
|---|---|---|----------------|
| | Type a password for the to this computer. | built-in administrator account that you can | use to sign in |
| | User name | Administrator | |
| | Password | | |
| | Reenter password | | |
| | | | |
| | | | |
| | | | |
| ¢ | | | Finish |

32. To Sign-in to Windows Server 2012, press <Ctrl> + <Alt> + on the screen below.

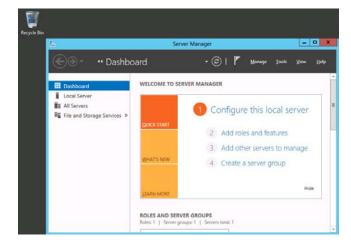


33. Type the password and press Enter.

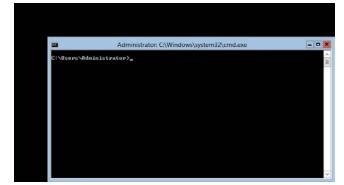




34. The following screen appears according to the contents selected (or displayed) in Step 19. Server with a GUI



Server Core Installation



Tips

Refer to Microsoft Website for more details. Configure and Manage Server Core Installations http://technet.microsoft.com/us-en/library/ij574091.aspx

- 35. Install Starter Pack by referring to Chapter 1 (3.4 Installing Starter Pack).
- 36. Install drivers and specify detailed settings by referring to Chapter 1 (3.5 Setting Up Device Drivers).
- 37. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 38. Install the applications as needed by referring to Chapter 1 (3.7 Installing the Applications).
- 39. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with Windows standard installer is now complete.

3.4 Installing Starter Pack

Starter Pack contains drivers customized for this server. Be sure to apply Starter Pack before running the system.

| Important | Also install Starter Pack in the following cases. |
|-----------|---|
| | The hardware configurations have changed |
| | (If an internal optional device is installed or removed, apply the Starter |
| | Pack. If a dialog box prompting system reboot is displayed, reboot the |
| | system according to the on-screen instructions, and then apply the |
| | Starter Pack.) |
| | If the system was restored using a restore process |
| | – If a system has been restored using the backup tool |
| | |
| Note | The Scalable Networking Pack (SNP) function is disabled upon Starter Pack |
| | installation is complete. |
| | The setting of SNP function may affect the system performance. |
| | |
| Tips | If the OS is installed by using EXPRESSBUILDER, Starter Pack is already applied. |
| | If the configuration is not changed, you do not need to apply Starter Pack again. |

3.4.1 When using EXPRESSBUILDER DVD

- 1. Sign-in to the system with the built-in administrator, which has administrative privileges.
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. Start the installer of Starter Pack according to the installation type.

Server with a GUI

Click Integrated Installation on the menu.

| | EXPRESSBUILDER | × |
|-----------|-------------------------|---------------------------|
| Autorun I | Menu | Version 7.00-000.00 (000) |
| | Instruction Manual | |
| 0 | Versions | |
| F | Integrated Installation | |
| | Applications | |
| | | |
| (Fr | Exit | |

When the following screen appears, make sure that the **Starter Pack** option is selected, and then click **Install**.

| Oninstall application Starter Pack | n if you want to reinstall | IC. | |
|--|--|-----|--|
| O Applications | | | |
| Universal RA | oort Service oort Service(HTTPS) AID Utility o Collection Utility | | |
| | | | |
| | | | |

Tips

If Starter Pack is already installed, the **Applications** option is selected by default. To install Starter Pack again, select the **Starter Pack** option.

Server Core installations

(1) From the command prompt, type the following command. In the example below, the optical disk drive is drive D.

```
Cd /d D:\001\win\winnt\bin
```

C:\Users\administrator>cd /d D:\001\win\winnt\bin

(2) Enter the following, and then press <Enter> key.

Pkgsetup.vbs

D:\001\win\winnt\bin>**pkgsetup.vbs**

Wait for several minutes without attempting any further operation until the following window appears. On the server with a GUI, the following progress message appears while the Starter Pack is installed.

| Starter Pack |
|---|
| Installing Starter Pack. Please wait for a while. |
| Copying Files. Checking the system information. Updating drivers. Performing the last process. |

4. Read the message, and then click **OK**. Starter Pack installation starts.

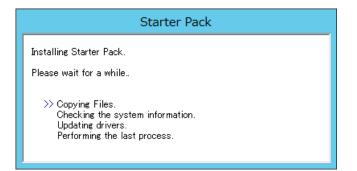
| | Starter Pack |
|---|---|
| ? | Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot. |
| | OK Cancel |

Wait until installation completes (about 3 to 5 minutes).

Note

The screen may black out instantaneously or resolution may change while Starter Pack is installed, but it is not a failure.

On the server with a GUI, the following progress message appears while the Starter Pack is installed.



5. When the following message appears, Starter Pack installation is complete. Follow the instructions in the message, and remove EXPRESSBUILDER DVD.

| | Starter Pack | |
|---|---|--|
| i | Installing Starter Pack was completed. The setup reboots for installing drivers. After taking out it from Optical Disc Drive, if the media is set in Optical Disc Drive, click [OK]. | |
| | ОК | |

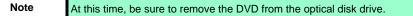
6. Click **OK** to restart the system.

Installation of Starter Pack is now complete.

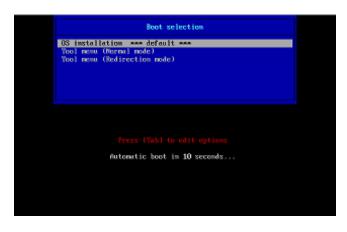
3.4.2 When using Internal Flash Memory

(Optional "Internal Flash Memory" is required)

- 1. After installing the operating system, restart the server.
- 2. When "Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network" appears during POST, press <F3> key.



3. When the following message appears, select **OS installation** *** **default** ***. You will automatically advance to the next window, with no need for further input.



The following window appears.



The server starts from EXPRESSBUILDER.



4. Select **English** on the language selection window, and then click **OK**.



5. Click Utilities.

| <u>_</u> | Setup | |
|----------|--------------------|---|
| ٩ | Utilities | Ø |
| Move | to Utilities Menu. | |
| ٢ | Exit | |

6. Click Starter Pack Installation.

| RAID Configuration Data | |
|--|----------|
| File Execution | |
| Starter Pack Installation | k |
| Install Starter Pack to the installed Memory | |

7. Read the contents, and then click **Yes**.

| Question | | | | |
|----------|---|----|-----------------------|-------|
| | nstall Starter Pack into No you want to procee | | indows has been insta | lled. |
| | | | [Message ID : P20 | 00] |
| 0 | | | | |
| | | | | |
| | | | | |
| | Yes | No | 1 | |
| | Yes | No | | |

8. When files are copied, click **Close** on the following screen.

| 1 Informat | ion |
|------------|--|
| | Starter Pack has been copied. |
| | To install Starter Pack, run the following bat file in Virtual Flash Memory after logging on the Windows. |
| • | [VIRTUAL_DRV]:\app_pkg.bat |
| | [Message ID : P1000] |
| | |
| | |
| | |
| | Close |

The server then restarts.

Note

Tips

You do not need to press <F3> key at this time.

9. Proceed application step according to the installation type.

During setup, a virtual floppy disk drive is temporarily connected. Follow the instructions below to reference the virtual floppy disk drive.

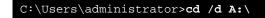
Server with a GUI

Click **app_pkg.bat** of Floppy disk drive (usually drive A).

Server Core installations

 Enter the following command at the command prompt, and then specify the drive letter of Floppy disk drive (usually drive A).

Cd /d A:\



(2) Enter the following, and then press <Enter> key.

app_pkg.bat

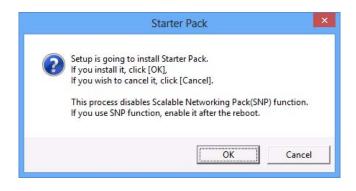
A:\>app_pkg.bat

Wait until the file copy is complete. (About 1 to 3 minutes.)

On the server with a GUI, the following progress message appears while the Starter Pack is installed.

| Starter Pack |
|---|
| Installing Starter Pack. |
| Please wait for a while |
| Copying Files. Checking the system information. Updating drivers. Performing the last process. |

10. Read the message, and then click **OK**. Starter Pack installation starts.

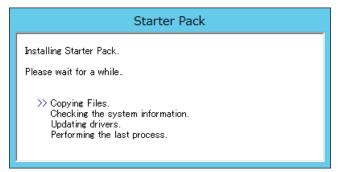


Wait until the installation of the Starter Pack is complete. (About 3 to 5 minutes)

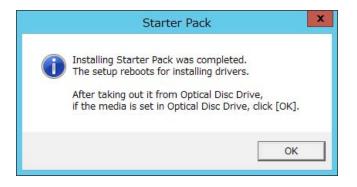
Note

The screen may black out instantaneously or resolution may change while Starter Pack is installed, but it is not a failure.

On the server with a GUI, the following progress message appears while the Starter Pack is installed.



11. Click **OK** to restart the system.



Installation of Starter Pack is now complete.

3.5 Setting Up Device Drivers

Install and set up device drivers provided for the standard configuration.

For details regarding the installation and setup of a driver for an optional device, refer to the manual supplied with the optional device.

3.5.1 Installing the LAN drivers

(1) LAN drivers

If EXPRESSBUILDER is used for setup, the LAN driver will automatically be installed. If the Windows standard installer is used for setup, install Starter Pack to install the LAN driver.

| | - |
|-----------|---|
| Important | Teaming of network adapters by using BACS or PROSet is not supported. WOL is supported by the standard network adapters only. However, Wake On LAN in the shutdown state is not supported in the following case: Select [Control Panel] - [System and Security] - [Power Options] - [Choose what the power button does], and if [Turn on fast startup] is selected in [Shutdown settings] on [System Settings] screen. When [Turn on fast startup] is not displayed, fast startup feature is disabled. |
| Note | To change the LAN or BACS driver settings, log on to the system from a local console using an administrator's account. Remotely changing the settings by using the operating system's remote desktop feature is not supported. Be sure to select the Internet Protocol (TCP/IP) check box when specifying an IP address. |

(2) Optional LAN board

This server supports the following optional LAN boards.

Optional LAN boards: N8104-128/132/133/138/145

Note: N8104-128 is supported by Express5800/R110f-1E only.

The drivers for LAN boards are automatically installed using the OS plug-and-play function.

The LAN driver is not installed if N8104-145 is not installed at the time of installation of the OS by using EXPRESSBUILDER or at installation of Starter Pack.

Perform the steps below to install the N8104-145 LAN driver manually.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.

If Autorun Menu appears, close the menu.

Tips

EXPRESSBUILDER DVD is unnecessary if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

2. Open Command Prompt, and execute install.bat in the following folder.

When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\001\win\winnt\ws2012\lan\intel

If Starter Pack was installed from Internal Flash Memory:

System Drive:\StartPKG\ws2012\lan\intel

 When Command Prompt returns to a wait status, remove the EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Setup is now completed.

Note

Using an optional LAN board, perform procedure "3.5.2 Setting up LAN drivers" for each optional LAN board.

(3) Network adapter name

After installing the LAN drivers, the following network adapter names will be displayed by the Device Manager.

Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:

[N8104-128] Broadcom BCM57711 NetXtreme II 10 GigE (NDIS VBD Client) #xx* [N8104-132/133/138] Broadcom NetXtreme Gigabit Ethernet #xx* [N8104-145] Intel(R) Ethernet Server Adapter I340-T2 #xx*

* If there are adapters with the same name, a different identification number will be assigned to xx.

Tips

The ID for N8104-128 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

3.5.2 Setting up LAN drivers

(1) Setting link speed

The transfer rate and duplex mode of the network adapter must be the same as those of the switching hub. Follow the procedure below to specify the transfer rate and duplex mode.

Tips

Using N8104-128 default speed duplex (10Gb Full), there is no problem using switch with "Autonegotiation" speed duplex.

- 1. Open the Device Manager.
- Expand Network Adapters, and then double-click the name of the network adapter you want to set. The properties of the network adapter will be displayed.
- 3. On the Advanced tab, set the Speed & Duplex values to the same as those of the switching hub.
- 4. Click **OK** in the **Network Adapter Properties** dialog box.
- 5. Restart the system.

The link speed setting is now complete.

(2) Using N8104-132/133/138

Using N8104-132/133/138 with the server, follow the procedure below to set it.

1. Insert EXPRESSBUILDER DVD into the optical disk drive. If Autorun Menu appears, close the menu.

EXPRESSBUILDER DVD is unnecessary if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

2. Double-click pgdyavd_disable.vbs in the following folder.

When using EXPRESSBUILDER DVD:

Tips

EXPRESSBUILDER DVD:\001\win\winnt\ws2012\lan\bcom\ws2012\lan

If Starter Pack was installed from Internal Flash Memory:

System drive: \StartPKG\ws2012\lan\bcom\ws2012\lan

3. When the following message appears, click OK.

| Configuration Completed |
|--|
| [Option:PopUp RLV Disabled(Action:Done)] |
| Reboot the system |

Tips

The message "Action:Non" indicates that the LAN driver is already set.

4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Setup is now completed.

3.5.3 Graphics accelerator driver

The graphics accelerator driver for standard configurations is installed when Starter Pack is installed from EXPRESSBUILDER.

The graphic accelerator driver is automatically installed on setup with EXPRESSBUILDER.

To reinstall drivers separately, complete the following steps.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.

If Autorun Menu appears, close the menu.

Tips You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.

- 2. On the Start menu, point to All programs, Accessories, and then select Explorer.
- 3. Double-click the install.bat icon in the following folder.
 - When using EXPRESSBUILDER DVD: EXPRESSBUILDER DVD:\001\win\winnt\ws2012\video
 - If Starter Pack was installed from Internal Flash Memory: System drive:\StartPKG\ws2012\video

You will be prompted to confirm the End User License Agreement during this process. Click the **ACCEPT** button to continue.

4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Graphic accelerator driver installation is now complete.

3.5.4 When using a SAS controller (N8103-142)

The driver for SAS controller N8103-142 is automatically installed by Windows Plug-and-Play.

3.5.5 When using a RAID Controller (N8103-160)

The driver for RAID Controller N8103-160 is automatically installed by Windows Plug-and-Play.

3.5.6 When using a Fibre Channel controller (N8190-153/154)

The driver for Fibre Channel controller N8190-153/154 is automatically installed by Windows Plug-and-Play.

3.6 License Authentication

To use Windows Server 2012, you need finish the license authentication procedure.

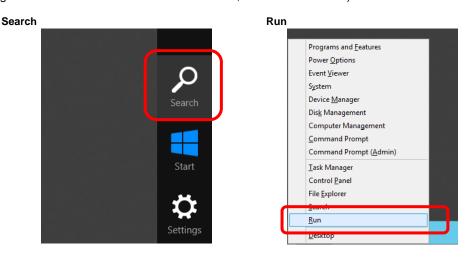
Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

Connect to the Internet to perform the authentication procedure.

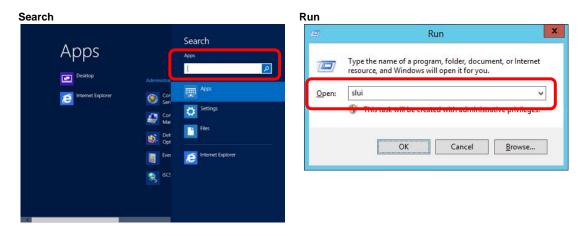
Or, use the telephone to perform the authentication procedure.

(1) Server with a GUI

 Click Search on the Charms bar. (Or, right-click the bottom left corner on the screen, and then click Run.)



2. Enter "slui" in the Search box, and then press the <Enter> key.



3. Read the contents, and then continue the license authentication procedure.

| PR. (| Windows Activation | | | - 0 X |
|---|--|------------------------|-------------------|-------|
| o • • • • • • • • • • • • • • • • • • • | unter Panel + System and Security + Action Center + Windows Activation Windows Isn't activated Windows stat be activated eight non. Try activating Windows later. If this save persists, | | Search Control Pa | mal P |
| | Support online to activate Windows. Activate Convent endelsion Windows Server 2012 Standard Courset producek key | onect rectoon customer | Jervice and | |
| | ****_CDQgp Contact Microsoft Customer Service and Support online What is a product lay? Read the Microsoft Subser License Terms | | | |
| | Activation datals | | ۲ | |
| | | | | |
| | | | | |

Tips

If your license is already authenticated, you do not need to perform this procedure.

Windows activation is now complete.

(2) Server Core installations

1. At the command prompt, enter the following, and then press <Enter> key. slmgr -dli

```
C:\Users\administrator>slmgr -dli
```

If license authentication is required, go to the next step.

If your license is already authenticated, you can skip the next and the subsequent steps.

2. Change the product key.

When using Backup DVD:

Type the following command, and then press the <Enter> key.

C:\Users\administrator>slmgr -ipk <Product key on COA label>

When using Windows Server 2012 DVD-ROM:

You do not need to change the product key. Go to the next step.

3. Perform license authentication.

When connected to the Internet:

License authentication is performed via the Internet. Type the following command, and then press the <Enter> key.

C:\Users\administrator>**slmgr** -ato

This completes authentication.

When not connected to the Internet:

Use telephone for license authentication.

Type the following command, and then press the <Enter> key.

C:\Users\administrator>slmgr -dti

Get an Install ID for license authentication.

Refer to the file <code>%systemroot%\system32\sppui\phone.inf</code> to confirm the telephone number of Microsoft Licensing Center.

Call Microsoft Licensing Center and tell them your Install ID.

Type the confirmation ID you have received in the following command, and then press the <Enter> key.

C:\Users\administrator>slmgr -atp <Confirmation ID>

This completes authentication.

3.7 Installing the Applications

EXPRESSBUILDER contains applications including NEC ESMPRO Agent and NEC ESMPRO Manager. Some applications stored in EXPRESSBUILDER can be installed collectively by performing the procedures described below. When installing these applications individually, see *Chapter 2 (Installing Bundled Software)*. This feature is *only available on the server with a GUI*.

- 1. Sign-in to the system with the built-in administrator, which has administrative privileges.
- 2. Insert the EXPRESSBUILDER DVD into the optical disk drive.
- 3. Click Integrated Installation on the menu.

| Autorun I | expressbuilder Menu | × Version 7.00.000.00 (000) |
|-----------|-------------------------|--------------------------------|
| | Instruction Manual | |
| 0 | Versions | |
| Ŧ | Integrated Installation | \supset |
| | Applications | |
| | | |
| ₩. | Exit | |

4. On the following screen, make sure that the **Applications** option is selected.

Select the check boxes corresponding to the applications to install, and then click Install.

| stall these software. You cannot select applications if your system have not installed Starter Pack. Uninstall application if you want to reinstall it. Starter Pack Applications WEC ESMPRO Agent Express Report Service Express Report Service(HTTPS) Universal RAID Utility Product Info Collection Utility ExpressUpdate Agent | | S | ietup R | | |
|---|---|--|------------|-----------------------|--|
| Uninstall application if you want to reinstall it. Starter Pack Applications WEC ESMPRO Agent Express Report Service Express Report Service(HTTPS) Universal RAID Utility Product Info Collection Utility | stall these software | | - 0 | | |
| Applications Applications Constructed Applications Constructed Applications Constructed Applications Appl | | | | stalled Starter Pack. | |
| CNEC ESMPRO Agent Express Report Service Express Report Service(HTTPS) Universal RAID Utility Product Info Collection Utility | Starter Pack | | | | |
| | Applications | | | | |
| | Express Report Express Report Universal RAID Product Info Col | Service Service(HTTPS) Utility Ilection Utility | | | |
| Install Cancel | | Install | | Cancel | |

| Note | • If Starter pack is already installed, the Applications option is selected by |
|------|--|
| | default. |

- Applications available for installation are selected by default.
- An application that has been already installed need to be uninstalled before installing it again.
- If your system environment does not satisfy the prerequisite for an application, you cannot install it. (For details, refer to the on-screen information and the relevant page of each application.)

The selected applications are automatically installed.

5. When a message appears, click **Restart**, and then remove the EXPRESSBUILDER disk from the optical disk drive.

Now installation of applications is completed.

Installation When Multiple Logical Drives Exist 3.8

Before starting installation, backup data for future use in case of data loss.

(1) Installation process

- Setup with EXPRESSBUILDER

Important Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally.

Refer to Chapter 1 (3.2 Setup with EXPRESSBUILDER), and proceed with setup.

In this case, EXPRESSBUILDER installs the Windows on the first detected hard disk drive or logical drive.

- Setup with Windows standard installer
 - 1. Refer to Chapter 1 (3.3 Setup with Windows Standard Installer), and start setup.
 - 2. When the following message appears, select the partition to which you want to install the operating system.

```
Select the location to which Windows will be installed
```

The order and numbers of the disks displayed on the screen might not match the server's slot of the hard disk drives. Distinguish between the hard disk drives by viewing the hard disk drive capacity and partition size displayed on the screen, and then select a drive to install the Windows system. Selecting an improper drive might cause an unintentional corruption of the existing data. Be careful when selecting a hard disk drive on which to install the system.

| Important | For details, refer to the following Microsoft website: <u>http://support.microsoft.com/kb/937251/en-us</u> |
|-----------|---|
| | http://support.microsoft.com/kb/937251/en-us |
| | • You cannot edit the drive letters for the system volume or boot volume after setup is complete. Make sure that the drive letters assigned in this |
| | after setup is complete. Make sure that the drive letters assigned in this |
| | window are correct, and then proceed with setup. |

Refer to Chapter 1 (3.3 Setup with Windows Standard Installer), and proceed to setup Windows with 3. Windows standard installer and the instructions.

Tips

The drive letter might change after installation. If you want to change the drive letter, use the procedure shown in Changing drive letter assignments below.

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume. If you want to change them, re-install the Windows.

- 1. On the Start menu, right-click Computer, and then select Management. Next, launch Server Manager.
- 2. From the window on the left, select Storage, and then Disk Management.
- 3. Right-click the volume whose drive letter you want to change, and then select **Change drive letter and path**.
- 4. Click Change.
- 5. Click Assign next drive letter, and then select the drive letter you want to assign.
- 6. Click OK.
- 7. When the following message appears, read the contents and then click **OK**.

Some programs are dependent on drive letters, and may not run properly. Continue?

8. Close the Server Manager.

3.9 Setup of Windows Server 2012 NIC Teaming (LBFO)

Set up the network adapter teaming feature as shown below.

(1) Launching the NIC teaming setup tool

- 1. Launch Server Manager.
- 2. Select Local Server.
- 3. In the Properties window, click Enable or Disable for NIC teaming.

The NIC teaming setup tool will launch.

Tips

The NIC teaming setup tool can also be launched by opening the **Run** dialog box, typing lbfoadmin, and then pressing the <Enter> key.

(2) Creating a team

Create a team by using the NIC teaming setup tool.

- In the Servers section, select the name of the server to set up.
 If there is only one server connected, the name of the server is selected automatically.
- 2. In the Teams section, under Tasks, select New Team. The New Team wizard then starts.
- 3. Type the name of the team to create, and then select the network adapter to include in the team from the **Member adapters** list.
- 4. Click Additional properties.
- 5. Specify the required settings, and then click **OK**.

Teaming mode

| Static Teaming | Configures static aggregation between the NIC and switches. |
|--------------------|--|
| Switch Independent | Configures teaming on the NIC side without depending on the switch settings. |
| LACP | Configures dynamic aggregation between the NIC and switches. |

Load balancing mode

| Address Hash | Distributes the load based on IP addresses and port numbers. |
|--------------|--|
| Hyper-V Port | Distributes the load to each of the virtual switch ports used by the virtual machines. |

Standby adapter

Select one adapter to be set to standby mode from the adapters in the team.

Setting all adapters to active mode is also possible.

Primary team interface

Any VLAN ID can be specified for the primary team interface.

(3) Notes and restrictions

NIC teaming on a guest OS is not supported in the Hyper-V environment.

4. Setting Up Windows Server 2008 R2

Set up Windows Server 2008 R2.

4.1 Before Starting Setup

Read through the cautions explained here before starting setup.

- **EB** : Confirm during Setup with EXPRESSBUILDER
- **OS** : Confirm during Setup with Windows standard installer

| Hard | lware o | configuration |
|------|---------|---|
| | | The following hardware configurations require special procedures. |
| EB | OS | Reinstalling to a mirrored volume When you install Windows Server 2008 R2 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume. |
| EB | OS | Peripheral devices such as RDX/MO Remove an MO device before installing an OS. Some peripheral devices need to be halted before installation. Refer to the manual provided with the peripheral devices for how to set a device appropriate to installation. |
| ЕВ | OS | DAT, LTO, and similar media Do not set media that is unnecessary to installation during setup. |
| EB | 08 | Connecting to multiple hard disk drives (logical drives) For details on installing operating systems to a system in which multiple logical drives exist, refer to <i>Chapter 1 (4.9 Installation When Multiple Logical Drives Exist)</i> . |
| EB | 08 | Reinstalling to hard disk drives that have been upgraded to dynamic disks If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be reinstalled to it with the existing partitions. Set up the operating system with the Windows standard installer. |

Setup when mass memory is installed EB OS If mass memory is installed in your system, the large size of paging file is required at installation. Thus, the partition size for storing debug information (dump file) may not be secured. If you fail to secure the dump file size, use Windows standard installer for setup, and allocate the required file space to multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Specify another disk as the destination to store the debug information (required dump file size) by referring to Chapter 1 (6. Setup for Solving Problems). If the hard disk drive does not have enough space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another hard disk drive for the dump file. Note If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive. If sufficient space cannot be secured for the paging file, perform either of the following after setting up using Windows Standard Installer is complete. - Specify a hard disk drive other than the system drive as the location to store the paging file for collecting memory dump Create a paging file of the installed memory size + 300 MB or more in a drive other than the system drive. The paging file that exists in the first drive (in the order of drive letter C, D, E, ...) is used as the temporary memory dump location. Therefore, the size of the paging file must be "installed memory size + 300 MB" or more. Paging files in dynamic volumes are not used for dumping memory. The setting is applied after restarting the system. Example of correct setting C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or more \rightarrow The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.

| → The paging file in drive C is used for collecting memory dump, b collection may fail because the size of the paging file is smaller than the installed memory size. Example of incorrect setting 2 C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is a 300 MB → The total paging file size in all drives is "installed memory size × 0.5" E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size × 0.5" E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size + 400 ME but collection may fail because only the paging file in drive C is used for collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or mo (in dynamic volume) → Paging files in a dynamic volume cannot be used for collecting memory dump. Thus, collecting memory dump fails. Specify a drive other than the system drive for "Dedicated Dump File". Create the registry shown below by using the Registry Editor and specify the Dedicated Dump File. «When specifying the file named "dedicateddumpfile.sys" in drive D> Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet(ControlCrashControl Name: DedicatedDumpFile Type: REG_SZ Data: D:\dedicatedDumpFile Type: REG_SZ Data: D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File: Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 300 MB" of 0. Dedicated Dump File cannot be placed in dynamic volumes. | |
|--|---|
| | |
| C: Paging file whose size is smaller than the installed memory size D: Paging file whose size is "installed memory size + 300 MB" or more → The paging file in drive C is used for collecting memory dump, but collection may fail because the size of the paging file is smaller than the installed memory size. Example of incorrect setting 2 C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is a line the paging file in drive C is used for collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or more (in dynamic volume) → Paging files in a dynamic volume cannot be used for collecting memory dump. Thus, collecting memory dump fails. Specify a drive other than the system drive for "Dedicated Dump File". Create the registry shown below by using the Registry Editor and specify the nat Dedicated Dump File. Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSetControl(CrashControl Name: DedicatedDumpFile Type: REG_SZ Data: D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File: Pay strict attention to edit the registry. The setting is applied after restarting the system. | |
| C: Paging file whose size is smaller than the installed memory size D: Paging file whose size is "installed memory size + 300 MB" or more → The paging file in drive C is used for collecting memory dump, but collection may fail because the size of the paging file is smaller than the installed memory size. Example of incorrect setting 2 C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size + 400 MB", but collection may fail because only the paging file in drive C is used for collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or more (in dynamic volume) → Paging files in a dynamic volume cannot be used for collecting memory dump. Thus, collecting memory dump fails. pecify a drive other than the system drive for "Dedicated Dump File". reate the registry shown below by using the Registry Editor and specify the natedicated Dump File. Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet/Control\CrashControl Name: DedicatedDumpFile Type: REG_SZ Data: D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File: Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 300 MB" or or or setting the system. | |
| collection may fail because the size of the paging file is smaller than the installed memory size. Example of incorrect setting 2 C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size + 400 MB", but collection may fail because only the paging file in drive C is used for collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging files in a dynamic volume cannot be used for collecting memory dump. → Paging files in a dynamic volume cannot be used for collecting memory dump. Thus, collecting memory dump fails. Specify a drive other than the system drive for "Dedicated Dump File". Create the registry shown below by using the Registry Editor and specify the narrow of the registry shown below by using the Registry Editor and specify the narrow of the registry function of the registry f | |
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| D: Pa | aging file whose size is "installed memory size + 300 MB" or mor |
| E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size + 400 MB", but collection may fail because only the paging file in drive C is used for collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or more (in dynamic volume) → Paging files in a dynamic volume cannot be used for collecting memory dump. Thus, collecting memory dump fails. Specify a drive other than the system drive for "Dedicated Dump File". Create the registry shown below by using the Registry Editor and specify the na Dedicated Dump File. <when "dedicateddumpfile.sys"="" d="" drive="" file="" in="" named="" specifying="" the=""></when> Key: HKEY_LOCAL_MACHINE\SYSTEM | |
| ecify a dr | ive other than the system drive for "Dedicated Dump File". |
| eate the re | egistry shown below by using the Registry Editor and specify the r |
| eate the re | egistry shown below by using the Registry Editor and specify the r ump File. |
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| when specific terms of the second sec | egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile |
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| eate the re edicated Du <when spe<br="">Key: Name: Type: Data:</when> | egistry shown below by using the Registry Editor and specify the nump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys |
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| eate the re dicated Du when spe Key: Name: Type: Data: Data: Note the fo • Pay s • The s • Spec • Dedi • To co | C: Paging file whose size is smaller than the installed memory size D: Paging file whose size is "installed memory size + 300 MB" or more → The paging file in drive C is used for collecting memory dump, but collection may fail because the size of the paging file is smaller than the installed memory size. tample of incorrect setting 2 C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size + 400 MB" but collection may fail because only the paging file in drive C is used for collecting memory dump. tample of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or more (in dynamic volume) → Paging files in a dynamic volume cannot be used for collecting memory dump. Thus, collecting memory dump fails. y a drive other than the system drive for "Dedicated Dump File". the registry shown below by using the Registry Editor and specify the n ted Dump File. en specifying the file named "dedicateddumpfile.sys" in drive D> ey: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSetControl\CrashControl ame: DedicatedDumpFile ype: REG_SZ ata: D:\dedicateddumpfile.sys the following when specifying Dedicated Dump File: Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 300 MB" or Dedicated Dump File cannot be placed in dynamic volumes. |
| eate the re dicated Du When spe Key: Name: Type: Data: Data: Note the fo Pay s The s Spec Dedi To co any o | |
| ate the re dicated Du When spec Key: Name: Type: Data: Data: Ote the for Pay s Data: Ote the for Pay s Data: Data: Data: Data: Data: | |

| Syst | tem pa | rtition size | | |
|------|--------|---------------|--|--|
| EB | OS | - | • | ated by using the following formula. g file size + dump file size + application size |
| | | Full instal | lations | |
| | | Size re | quired to install the OS | = 15,600 MB (Windows Server 2008 R2 + Service Pack 1) = 8,400 MB (Windows Server 2008 R2 with Service Pack 1) = 8,000 MB |
| | | Paging | file size (recommended) | (Windows Server 2008 R2) = installed memory size × 1.5 |
| | | | file size | = installed memory size + 300MB |
| | | Applica | tion size | = as required by the application |
| | | Server Co | re installations | |
| | | Size re | quired to install the OS | = 11,100 MB (Windows Server 2008 R2 + Service Pack 1) = 3,700 MB (Windows Server 2008 R2 with Service Pack 1) = 3,500 MB (Windows Server 2008 R2) |
| I | | Paging | file size (recommended) | = installed memory size \times 1.5 |
| I | | Dump f | file size | = installed memory size + 300MB |
| | | Applica | ation size | = as required by the application |
| | | - | e, if the installed memory siz size is calculated as follows | ze is 1 GB (1,024 MB) and Full installation s is selected, |
| | | 8,000 M | B + (1,024MB × 1.5) + 1,024 | 4MB+ 300MB+ application size |
| | | = 10,860 | MB + application size | |
| | | | nentioned partition size is th the partition size is sufficien | e minimum partition size required for system installation. t for system operations. |
| | | The following | g partition sizes are recomm | nended. |
| | | Full | installations | : 32,768MB(32GB) or more |
| | | | ver Core installations B = 1,024 MB | : 10,240MB(10GB) or more |
| | | Note | The above paging file information (dump file) file must be large enou Make sure you set a insufficient, there will an inability to collect c Regardless of the information, the maxi memory + 300 MB". When installing other space needed by the a | e sizes are recommended for collecting debug b. The initial size of the Windows partition paging ugh to store dump files. sufficient paging file size. If the paging file is be a virtual memory shortage that may result in orrect debug information. sizes of internal memory and write debug mum size of the dump file is "size of internal applications or other items, add the amount of application to the partition. |
| | | | on size for installing Windo or add another hard disk d | ws is smaller than the recommended size, expand the rive. |

| | Tips | When creating a new partition, Windows OS assigns an initial boot partition of 100 MB. For example, when making a partition of 40,960 MB (40 GB), usable space will be 40,960 MB – 100 MB = 40,860 MB. Free space System Partition (40,860 MB) Boot Partition (100 MB) The boot partition is not recognized from the operating system. |
|--------|--|---|
| Hyper- | V 2.0 support | |
| | os | following web site for information related to Hyper-V 2.0. |
| | - | Locker, note the following. e to keep the recovery password secure. Do not keep it near a server running ser. |
| EB | Important 08 | If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any more. The recovery password might be required at startup of the OS after the following: Replacement of motherboard Initialization of trusted platform module (TPM) Change of BIOS setting |
| | BitLock Microso importa checklist | stall the operating system into a partition that is encrypted with BitLocker, delete the ter-encrypted partition prior to reinstallation. off releases software updates for BitLocker encryption. If using BitLocker, it is ant that you read through the information provided by Microsoft. Also read through the st published by Microsoft. etails, visit http://support.microsoft.com/kb/975496/en-us. |

| Insta | alling S | ervice Pack |
|-------|----------|---|
| EB | OS | If the OS installation media contains Service Pack 1, you do not need to apply the service pack again. You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself. |
| Lice | nse au | thentication |
| | | License authentication is required depending on the installation of Windows. For details, refer to <i>4.6 License Authentication</i> . |
| EB | OS | Note Activate within 30 days following installation. A virtual product key is used when installing in a virtual environment. It is not used when directly installing an operating system to a physical server. |

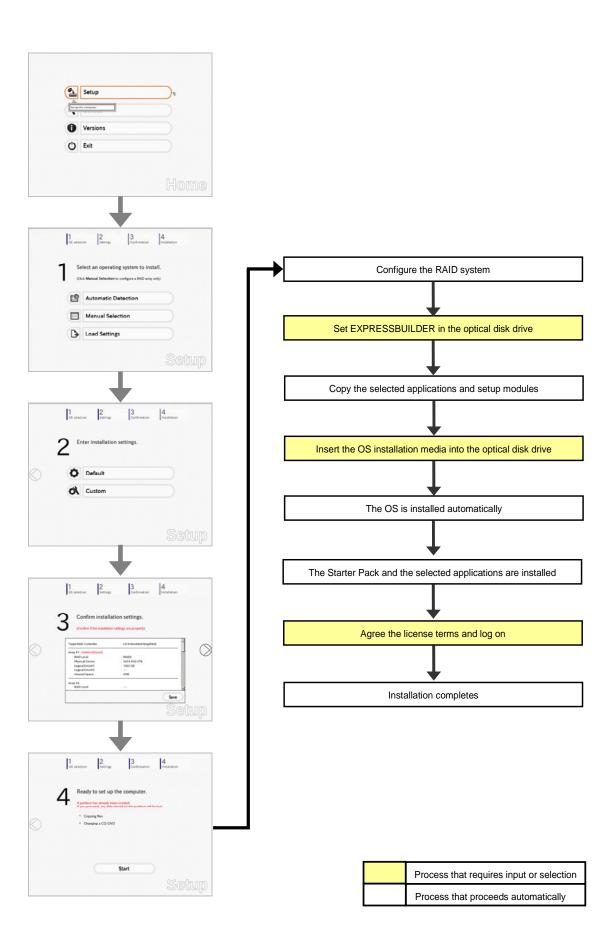
4.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

This feature automatically recognizes the RAID controller connected to the server and configures the RAID system. Therefore the hardware installation of the server needs to be finished by following "*User's Guide*".

| Important | Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: RAID settings Partition Settings Backing up user data, as needed, is recommended. Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup. |
|-----------|---|
| Note | The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP function may affect the system performance. Contact your sales representative for details. When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (4. RAID System Configuration)</i> in "<i>Maintenance Guide</i>" when creating RAID10. |
| Tips | Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally). For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>. |

4.2.1 Setup flow



4.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2008 R2 DVD-ROM*)
- > First Steps Guide
- Either of the following EXPRESSBUILDER
 - EXPRESSBUILDER DVD
 - Internal Flash Memory (optional)
- > Prepare if needed:
 - Removable media for Windows OS parameter file
 - Service Pack

(If the OS installation media contains Service Pack 1, you do not need to apply the service pack again.)

OS without using EXPRESSBUILDER DVD.



| EXPRESSBUILDER may be distributed in Internal Flash Memory. |
|---|
| EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in |
| the server. |
| • If you are using a server with Internal Flash Memory installed, you can install the |

4.2.3 Setup procedure

During Setup with EXPRESSBUILDER, parameters are specified through the wizard. You can also save the parameters as one file (a parameter file) to removable media.

Note Read through the items in *Chapter 1 (4.1 Before Starting Setup)* prior to installing Windows.

- 1. Turn peripheral device (such as a display) power on, and then turn the server power on.
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 3. Select **OS installation** *** **default** ***. You will automatically advance to step 4, with no need for further input.

| Boot selection OS installation and default and Yool menu (Redirection mode) Tool menu (Redirection mode) | |
|---|--|
| Press (Tab) to edit options Automatic hoot in 10 seconds | |

The following window appears.



The server starts from EXPRESSBUILDER.



4. Select English on the language selection window, and then click OK.



5. Click Setup.

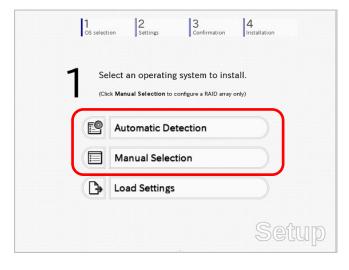
| Set up the computer. |
|----------------------|
| Versions |
| Exit |

6. On the **OS selection** menu, select the OS to install or specify the parameter file.
□ When not using parameter file : Go to Step 7.
□ When using a parameter file : Go to Step 8.



When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

7. When not using a parameter file, select an OS by either of the following two ways:



- To automatically detect the OS on the OS installation media:
- (1) Click Automatic Detection.

| 1 2 3 OS selection Settings 3 Confirmation | 4 Installation |
|---|-------------------|
| Select an operating system to in: (Click Manual Selection to configure a RAID arra | |
| Automatic Detection | ₽ |
| Select an operating system automatically with an installation | |
| Load Settings | |
| | Setup |

Insert the OS installation media, and then click OK.

| Questio | n | | | |
|---------|-----------------------|--------------------------------------|--------------------------------------|--|
| | To check your OS inst | allation disc, insert it into [M | the computer. essage ID : B2014] | |
| | | | | |
| 0 | | | | |
| | | | | |
| | | | | |
| | ОК | Cancel | | |

(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| 1 | Se | lect an operating | system to ins | tall. | |
|---|------|---------------------------|-----------------------|-------|---|
| I | (Cli | ck Manual Selection to co | onfigure a RAID array | only) | |
| ~ | E | Automatic Det | ection | | C |
| | | Manual Select | ion | | |
| | ₿ | Load Settings | | | |

To select an OS from the menu:

(1) Click Manual Selection.

| | lect an operating : :k Manual Selection to co | | |
|---------------------|---|--------|----------|
| Ľ | Automatic Dete | ection | |
| | Manual Selecti | on | <i>₽</i> |
| You can the inst | n select the target OS of allation from the menu. | | |

(2) From the Windows list, select Windows Server 2008 R2, and then click OK.

| Windows Windows Server 2008 R2 | v 1 |
|------------------------------------|------------------------------------|
| | |
| OVMware | |
| O RAID Configuration Only | |
| k | |
| | |
| | O VMware O RAID Configuration Only |

| (3) Click | \bigcirc on the right side of the screen. |
|-----------|---|
| | \rightarrow Go to step 9. |

| Select an operating system to install. (Click Manual Selection to configure a RAID array only) Image: Automatic Detection Manual Selection | 1 OS select | ion Settings Confirmat | ion Installation |
|--|----------------|------------------------|------------------|
| Automatic Detection | | | |
| | | | , array only) |
| | | Manual Selection | |

8. When *using* the parameter file, click Load Settings.

| 1 OS select | ion 2 Settings | 3 Confirmation | 4 Installation | |
|----------------|-------------------|-------------------|-------------------|---|
| | lect an operatin | | | |
| | Automatic De | | ay only) | |
| | Manual Selec | ction | | |
| | Load Settings | 5 | ₽ ₽ | |
| | | | Setup |) |

Follow the on-screen instruction to load the parameter file (*.tre).

| Places | Name Contention | Modified Tuesday |
|-------------|--------------------|----------------------|
| File System | | |
| | | |
| | | 18 |
| | | |
| | | |
| 4 Add - Rer | nove | |
| | | X Cancel |

Tips

For the removable media in which the parameter file is saved, see "/mnt/usr_connect/usb*" (* indicates a number).

Click \bigcirc on the right side of the screen.

| 1 Se | lect an operating system to | o install. |
|-------------|--|---------------|
| (CI | ck Manual Selection to configure a RAI | D array only) |
| e | Automatic Detection | |
| | Manual Selection | |
| ¥ 🕒 | Load Settings | |

When the parameter file is correctly loaded, the setting is determined. Click **Custom** to check and modify the setting in the wizard. Click \bigcirc on the right side of the screen.

| | 1 OS select | ion Settings | 3 Confirmation | 4 Installation | |
|------------|----------------|-------------------|-------------------|-------------------|------------|
| | 2 " | iter installation | settings. | | |
| \bigcirc | Ø | Default | | | \bigcirc |
| | ~ Ø | Custom | | | |
| | | | | | |
| | | | | Set | up. |

- \rightarrow Go to step 10.
- 9. Specify the setup parameters by using either of the following methods:

| _ | | 3 Confirmation | Installation |
|----|------------------|-------------------|--------------|
| 2 | nter installatio | on settings. | _ |
| Ø | Default | | |
| 10 | Custom | | |



(1)

| Click D | erault. | 3 Confirmation | 4 Installation |
|--------------|---|-------------------|-------------------|
| | 2 Enter installation | on settings. | |
| 2 | Default | | ® |
| \mathbf{S} | Specify minimum settings for th installation. Default values are used for other settings. | • | |
| | | | |
| | | | Setup |

(2) Select the edition of the OS to install from the **Edition** list. Type the password, and then click **Finish**.

| Enter the minimum setting: If you want to use the Win | i to set up the comput dows standard installer | er. , click Custom. | |
|--|---|------------------------|-----------------|
| Basic Settings | | | |
| Operating system | : Windows Se | rver 2008 R2 | |
| Edition | Standard(Fu | ull Installation) | |
| Language | English - | | |
| Typing Administrato | r Password | 6 | |
| Administrator Pas | sword | 1 | (Required) |
| Reenter Administ | ator Password | : | (Required) |
| | | | 1 - 100 M 200 C |
| | | | |
| | | | |
| | | | |
| | | | |
| | Finish | | Cancel |

(3) Click \bigcirc on the right side of the screen.

| 2 | | ter installation | oottingo. | |
|---|---|------------------|-----------|--|
| ~ | Ø | Default | | |
| | Ø | Custom | | |

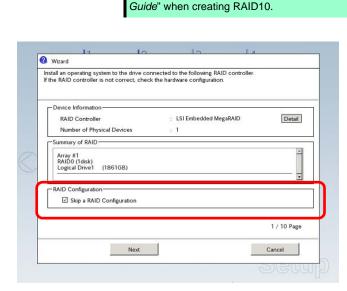
 \rightarrow Go to step 10.

| <u>se Cu</u> (1) | Click Cu | Istom. | 3 Confirmation | llation |
|---------------------|------------|--|-------------------|---------|
| | | 2 Enter installation | | |
| | \bigcirc | Default | | |
| | | Specify all settings for the installation. |] |)» |
| | | | (| Setup |

(2) Use this menu to configure the RAID system with the RAID controller detected automatically.

When using an onboard RAID controller (LSI Embedded MegaRAID):

This function does not support the creation of RAID10 by using the onboard RAID controller. Refer to Chapter 2 (4. RAID System Configuration) in "Maintenance



When creating new logical drives

Note

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives according to the wizard.

Important If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.

When skipping the creation of new logical drives

Select the Skip a RAID Configuration check box, and then click Next.

(3) Check the settings specified for Basic Settings. Choose Install Windows using EXPRESSBUILDER, modify the Edition, Language and Time zone settings as needed, and then click Next.

| Will | tall Windows by using the st. ndows standard installer u can install easily both Wind PRESSBUILDER. | | | | |
|------|--|-----------|-------------------------|---------|-------------|
| Γ | Basic Settings Operating system | : W | ndows Server 2008 I | 12 | |
| | O Use Windows stan | | uedia | | |
| Τ | Install Windows usin | - | | | |
| | Edition | English + | Il Installation) | • | |
| | Time zone | UTC-08.00 |)) Pacific Time (US & (| Canada) | |
| - | | | | | |
| | | | | | 4 / 10 Page |
| | Rack | Next | | | Cancel |

(4) Check the settings specified for **Partition Settings**. Modify the settings as needed, and then click **Next**.

| The If any | space where 2TB is exit y partitions at the drive I | eeded cannot be use | id. | rtition size can be set within 2TB. I area is deleted. |
|------------|--|--------------------------|------------------------------|---|
| Cur | rent partitions(the red-fram | ed area will be deleted) | | |
| | ID 0B(NTFS) Free (Total 1861.7GB) (0GI | space | | |
| | Partition Settings | ř. | | |
| 1 | Create a new partitio | n | | |
| | O Ose all O Size | :[| 40 (GB) 17 GB - 1961 GB) | '178=1024G8 |
| | | | | 5 / 10 Page |
| | | | | |

Important • Backing up user data, as needed, is recommended.

• Partition size

- Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (4.1 Before Starting Setup)*.)
- The maximum partition size is 2,097,152 MB.
- If you select "Create a new partition" under "Partition Settings", the entire contents of the hard disk drive will be deleted.

(5) Enter the user information, and then click **Next**.

| Type Computer Administrator from three of | Password requires more the following categorie | re than | 6 characters, and bers/uppercase/lo | must contain characters wercase/signs). |
|---|---|---------|--|--|
| User inform | mation | | | |
| Compute | er name | : 2 | Auto | |
| | | 1 | 1993-0123456 | (Required) |
| User nam | ne | : Ac | dministrator | |
| Administr | rator Password | 1 | | (Required) |
| Reenter | Administrator Password | - E | | (Required) |
| | | | | |
| | | | | 6 / 10 8 |

| Note | Computer name and Administrator Password are required parameters. Enter Administrator Password that satisfies the following conditions: Contains 6 or more characters Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols. |
|------|--|
| Tips | The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name. If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Reenter Administrator password text boxes. |

(6) Check the settings specified for Network Protocols. Modify the settings as needed, and then click Next.

| Advanced | Network protocols Standard settings Custom settings Standard adapter - Internet Protocol (IP |
|-------------|--|
| Advanced | O Custom settings |
| Advanced | |
| Advanced | Standard adapter - Internet Protocol (IP |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| 7 / 10 Page | |
| | |

Tips

The order of entry in **Custom settings** may differ from the numbering of LAN ports.

- NoteEven when an optional network board is connected, Custom settings only shows
standard network boards.After finishing Setup with EXPRESSBUILDER, specify the optional network
settings again.
- (7) Specify the domain or workgroup.
 - Check the settings, modify them as needed, and then click Next.

| loin this computer to a domain or a Choose Workgroup or Domain , | and then enter p | arameters. | | |
|---|------------------|------------|-----|-----------|
| ┌─ | | | | |
| Workgroup name | : W | ORKGROUP | | |
| O Join a domain | | | | |
| Domain name | : | | | |
| Account name | : | | | |
| Password | : | | | |
| Reenter password | : | | | |
| | | | | |
| | | | 8 | / 10 Page |
| Back | ext | | Can | and 1 |

(8) Check the settings of Windows components. Modify the settings as needed, and then click **Next**.

| hoose Windows components you want | to instan. | |
|-----------------------------------|-----------------------------|--|
| | | |
| Server roles | | |
| Web server(IIS) | Print and Document services | |
| DHCP server | File services | |
| DNS server | Hyper-V | |
| -Windows features | | |
| SNMP service | Advanced | |
| Simple TCP/IP services | | |
| WINS server | | |
| | | |
| | 9 / 10 Page | |
| Back Next | Cancel | |

| Choose Windows componer | ts you want to in | stall, | |
|---------------------------------|-------------------|-----------------|---------------|
| | | | |
| Server roles Web server(IIS) | | Print and Docur | |
| DHCP server | | File services | nent services |
| DNS server | | □ Hyper-V | |
| Windows features | | | |
| SNMP service | | | Advanced |
| WINS server | | | |
| | | | |
| | | | |
| | | | 9 / 10 Page |
| Back | Next | | Cancel |

Server Core installations

(9) Check the settings of applications.

Modify the settings as needed, and then click Finish.

| Choose applications you want to install. For details about each application, see Descrip | tion. |
|--|--|
| List of applications | Selected applications |
| * | NEC ESMPRO Agent |
| | Express Report Service |
| - | Add >> Express Report Service(HTTPS) Universal RAID Utility |
| | << Delete ExpressUpdate Agent |
| - Description - | |
| | 10 / 10 Page |
| | Cancel |

On the following screen, click \oslash on the right side of the screen.

| 2 | er installation settings. | |
|------|---------------------------|--|
| 0 | Default | |
| ~ 01 | Custom | |

10. Check the parameter settings.

To save the settings, click Save.

| 0 | Confirm Instal | lation aattinga | |
|----------|-------------------------------|----------------------------|------|
| | Confirm Instal | lation settings. | |
| | (Confirm if the installat | ion settings are properly) | |
| <u> </u> | (Commin in the installat | on settings are propenyy | |
| Г | | | |
| | Target RAID Controller | : LSI Embedded MegaRAID | |
| | Array #1 : Initialized(Quick) | | |
| | RAID Level | : RAID0 | |
| | Physical Device | : SATA #00 2TB | |
| | Logical Drive#1 | : 1861GB | |
| | Logical Drive#2 | | |
| | Unused Space | : OGB | |
| | Array #2 | | |
| | RAID Level | ; | |
| - | | | |
| | | 0 | Save |
| | | | |

Click \bigcirc on the right side of the screen.

11. The setup process starts.

Click Start to continue setup.

| | 1 OS selection Settings Confirmation Installation |
|---|---|
| | Ready to set up the computer. |
| | A partition has already been created. If you proceed, any data stored on the partition will be lost. |
| | * Configuring RAID system |
|) | Copying files |
| / | * Changing media |
| | |
| | Start |
| | Setu |

If you need to suspend setup due to reasons such as backing up data, restart the setup process from the beginning.

12. If the server has started from the EXPRESSBUILDER DVD, insert the EXPRESSBUILDER disk into the optical disk drive, and then click **OK**.

| | on | | | |
|---|--------------------|-------|--------------------|------|
| | Insert EXPRESSBUIL | .DER. | [Message ID : J20 | 002] |
| | | | | |
| 0 | | | | |
| | | | | |
| | | | | |
| | | | | |

13. Insert the OS installation media into the optical disk drive, and then click OK.

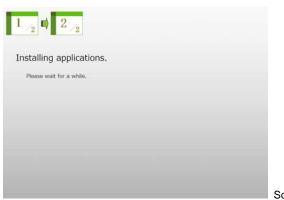
| [Message ID : J2000] |
|------------------------|
| |
| |
| |
| |
| |
| |
| |

Windows Server 2008 R2 is installed automatically.

14. The Starter Pack and the selected applications are automatically installed.



Screen displayed when Starter Pack is being installed



Screen displayed when an application is being installed

15. When the software license agreement window appears, select **I accept the license terms**, and then click **Start** (Full installation only).

| Plea | se read the license terms |
|-------------------|---|
| MI | CROSOFT SOFTWARE LICENSE TERMS |
| MI | CROSOFT WINDOWS SERVER 2008 R2 STANDARD |
| wh sof terr | ese license terms are an agreement between Microsoft Corporation (or based on ere you live, one of its affiliates) and you. Please read them. They apply to the tware named above, which includes the media on which you received it, if any. The ms also apply to any Microsoft |
| 2 | updates, |
| 2 | supplements, |
| 2 | Internet-based services, and |
| • | sunnort services |
| - 1 | accept the license terms |

16. When the following message appears, press <Ctrl> + <Alt> + keys.



Full installations:

When the following screen appears, enter your password into the text box, and then click 😜.



Server Core installations:

When the following screen appears, enter your password into the text box, and then click 😂.



17. Click OK.



- 18. Follow the instructions described in Chapter 1 (4.5 Setting Up Device Drivers) to set up the device drivers.
- 19. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 20. Apply Service Pack as needed according to Chapter 1 (4.7 Applying Service Pack).
- 21. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with EXPRESSBUILDER is now complete.

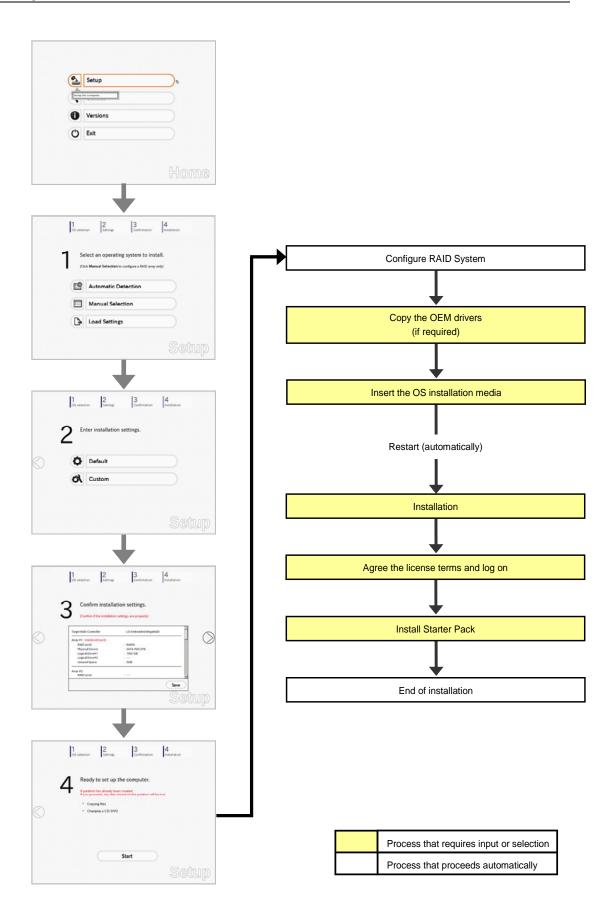
4.3 Setup with Windows Standard Installer

This section describes how to install Windows with Windows Standard Installer.

This feature automatically recognizes the RAID controller connected to the server and configures the RAID system. Therefore the hardware installation of the server needs to be finished by following "*User's Guide*".

| Important | Setup with OS standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: -RAID settings Backing up user data, as needed, is recommended. |
|-----------|--|
| Note | When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (4. RAID System Configuration)</i> in "Maintenance Guide" when creating RAID10. |
| Tips | Setup with OS Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally). For details on creating a parameter file, refer to 7. Windows OS Parameter File. |

4.3.1 Setup flow

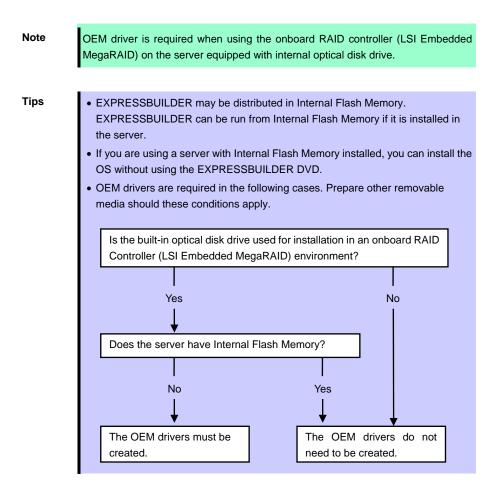


4.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as Windows Server 2008 R2 DVD-ROM)
- > First Steps Guide
- Either of the following EXPRESSBUILDER
 - EXPRESSBUILDER DVD
 - Internal Flash Memory (optional)
- Prepare if needed:
 - Removable media for Windows OS parameter file
 - Removable media for creating OEM drivers (Windows Server 2008 R2)
 - Service Pack

(If the OS installation media contains Service Pack 1, you do not need to apply the service pack again.)

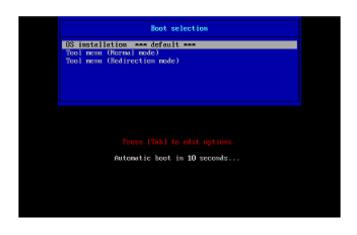


4.3.3 Setup procedure

Note

Read through the items in *Chapter 1 (4.1 Before Starting Setup)* prior to installing Windows.

- 1. Turn peripheral device (such as a display) power on, and then turn the server power on.
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- Select OS installation *** default ***. You will automatically advance to step 4, with no need for further input.



The following window appears.



The server starts from EXPRESSBUILDER.



4. Select **English** on the language selection window, and then click **OK**.



5. Click Setup.

| Set up | Setup | \$ |
|--------|----------|----|
| , O | Versions | |
| ٥ | Exit | |

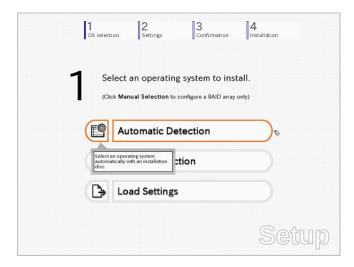
6. On the **OS selection** menu, select the OS to install or specify the parameter file.
□ When not using parameter file : Go to Step 7.
□ When using a parameter file : Go to Step 8.

Note When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

7. When not using a parameter file, select an OS by either of the following two ways:

| 1 Se | lect an operating system to ins | stall |
|-------------|---|-------|
| | ck Manual Selection to configure a RAID array | |
| e | Automatic Detection | |
| | Manual Selection | |
| Ŀ | Load Settings | |
| | | Setu |

To automatically detect the OS on the OS installation media: (1) Click Automatic Detection.



Insert the OS installation media, and then click OK.

| Question | | | |
|----------|--------------------------|--------|-----------------------------------|
| | To check your OS install | | e computer. isage ID : B2014] |
| | | | |
| 0 | | | |
| | | | |
| | | | |
| | | 1 | |
| | ОК | Cancel | |

(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| | elect an operating system to install. | |
|---|---------------------------------------|--|
| • •< | Automatic Detection | |
| | Manual Selection | |
| ß | Load Settings | |

To select an OS from the menu:

(1) Click Manual Selection.

| | elect an operating system t | |
|------------------|--|----------------|
| | ick Manual Selection to configure a RAI | ID array only) |
| E | Automatic Detection | |
| | Manual Selection |)₽ |
| You c the ins | an select the target OS of tallation from the menu. | |

(2) From the Windows list, select Windows Server 2008 R2, and then click OK.



(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| | elect an operating system to insta | |
|-----|--|------|
| (Cl | ick Manual Selection to configure a RAID array o | nly) |
| Ľ | Automatic Detection | |
| - | Manual Selection | |
| Þ | Load Settings | |

8. When *using* the parameter file, click **Load Settings**.

| 1 OS selec | ion 2 3 Settings Confirmation | 4 Installation |
|---------------|----------------------------------|-------------------|
| | elect an operating system to ins | |
| 2 | Automatic Detection | |
| | Manual Selection | |
| B | Load Settings | |
| Load | stallation settings. | Setup |

Follow the on-screen instruction to load the parameter file (*.tre).

| Places | Name | ▼ Modified |
|-------------|----------|--|
| 🗅 root | 🔁 cdrom1 | Tuesday |
| File System | | |
| | | |
| | - | |
| | | |
| | | |
| | | |
| 1 | _ | |
| Add - Ber | 10/10 | 5 |
| | | |
| | | and the second s |

Tips

For the removable media in which the parameter file is saved, see "/mnt/usr_connect/usb*" (* indicates a number).

Click \bigcirc on the right side of the screen.

| | Select an operating | | | |
|-----|---------------------------|------------------------|-------|---|
| • | Click Manual Selection to | configure a RAID array | only) | C |
| E | Automatic De | etection | | ' |
| |] Manual Selec | tion | | |
| < B | Load Settings | • | | |

When the parameter file is correctly loaded, the setting is determined. Click **Custom** to check and modify the setting in the wizard. Click \bigcirc on the right side of the screen.

| 2 ▫ | nter installation settings. | |
|------|-----------------------------|--|
| ۷ | | |
| Ó | Default | |
| × 01 | Custom | |

 \rightarrow Go to step 10.

9. Click Custom.

| | 1 OS selecti | on Settings | 3 Confirmation | 4 Installation |
|---|-----------------|-----------------------------|-------------------|-------------------|
| | 2 " | ter installation | settings. | |
|) | 0 | Default | | |
| | 8 | Custom | | ₽ |
| | Specify | all settings for the on. | | |
| | | | | Setup |

(1) Use this menu to configure the RAID system with the RAID controller detected automatically.

Note

When using an onboard RAID controller (LSI Embedded MegaRAID):

This function does not support the creation of RAID10 by using the onboard RAID controller. Refer to *Chapter 2 (4. RAID System Configuration)* in "*Maintenance Guide*" when creating RAID10.

| | | ected to the following RAID cont the hardware configuration. | roller. |
|--|--------------|---|-------------|
| | | | |
| Device Information - | | | 97. 587 |
| RAID Controller | | : LSI Embedded MegaRAID | Detail |
| Number of Physica | al Devices | : 1 | |
| -Summary of RAID | | | |
| Array #1 RAIDO (1disk) Logical Drive1 (1 | 861GB) | | * |
| RAID Configuration- | | | × |
| Skip a RAID Co | onfiguration | | |
| | | | 1 / 10 Page |
| | Next | i. | Cancel |

When creating new logical drives

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives according to the wizard.

Important If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.

When skipping the creation of new logical drives

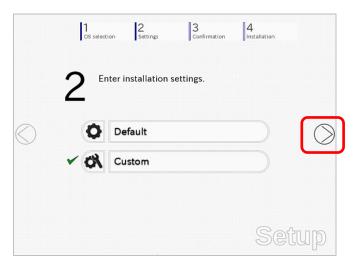
Select the Skip a RAID Configuration check box, and then click Next.

(2) Check the settings specified for **Basic Settings**.

Choose **Use Windows standard installer**, modify the settings as needed, and then click **Next**. If you need to copy the OEM driver, select the **Copy OEM drivers to removable media** check box.

| PRESSBUILDER. | | | | |
|----------------------------------|---|-----------------------|---------|-------------|
| Operating system | : W | ndows Server 2008 | R2 | |
| Use Windows star Copy OEM dri | ndard installer ivers to removable r | nedia | | |
| | ng EXPRESSBUILD | | - | |
| Edition | English T | ll Installation) | | |
| Time zone | (UTC-08.0 |)) Pacific Time (US & | Canada) | (* |
| | | | | 4 / 10 Page |

On the following screen, click \bigcirc on the right side of the screen.



10. Check the parameter settings. To save the settings, click **Save**.

| O Confirm install | ation settings. | |
|---------------------------------------|---------------------------|------|
| O (Confirm if the installation | on settings are properly) | |
| | | |
| Target RAID Controller | : LSI Embedded MegaRAID | |
| Array #1 : Initialized(Quick) | | |
| RAID Level | RAIDO | |
| Physical Device | : SATA #00 2TB | _ |
| Logical Drive#1 | : 1861GB | |
| Logical Drive#2 | ; | |
| Unused Space | : OGB | |
| Array ∉2 | | |
| RAID Level | : | |
| | | |
| | | Save |
| | | |

Click \bigcirc on the right side of the screen.

11. The setup process starts. Click **Start** to continue setup.

| | 1 2 3 4 Installation |
|------------|---|
| \bigcirc | Ready to set up the computer. A partition has already been created Byou proceed, any data stored on the partition will be lost. Configuring RAID system Copying OEM drivers Changing a CD/DVD Installing an OS |
| | <u>start</u> Seftup |

If you need to suspend setup due to reasons such as backing up data, restart the setup process from the beginning.

Continue setup according to the on-screen messages.
 When copying the OEM driver, the following message appears.
 Insert the removable media into the disk drive, and then click Yes.

| Qu | lestion | | | |
|----|---------|--|---------------|--|
| | | DEM drivers (Window novable media, and th | | |
| | | age ID : G2000] | en click res. | |
| (| ? | | | |
| | | | | |
| | | | | |
| | | | | |
| | | Yes | No | |

When the following screen appears, insert the OS installation media into the disk drive, and then click OK.

| _ | Insert an OS i | nstallation disc for | installing. | | - |
|---|----------------|----------------------|-------------|-------------------|---|
| | | | | sage ID : J2000] | |
| | | | | | |
| 3 | | | | | |
| | | | | | |
| | | | | | |

13. The server reboots automatically.

If you use Internal Flash Memory, press <F3> key when the following message appears during POST.

Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network

Note

Since the OS installation media is set in the optical disk drive in Step 12, boot the system from the optical disk drive having higher boot priority, not from Internal Flash Memory.

14. Run from the OS installation media.

If a bootable operating system is already installed on the hard disk drive, press <Enter> key while the message "Press any key to boot from CD or DVD..." is displayed on the top of the screen.

The boot sequence proceeds and the message "Windows is loading files..." appears.

Note

If "Windows is loading files..." message does not appear, <Enter> key was not pressed correctly. Reboot and retry.

This step is unnecessary if no bootable operating system exists.

15. Click Next at default settings.



16. Click Install Now 🗐.

Windows Server 2008 R2 installation starts.



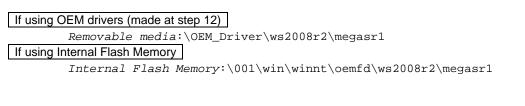
- If the following message appears, go to step 17.
- If it does not, go to step 19.



Tips

• The above message appears if you are using an onboard RAID controller (LSI Embedded MegaRAID) in an environment equipped with an internal DVD drive.

- When this message appears, the message will say "CD, DVD, or USB flash drive", but use Internal Flash Memory or removable media with the OEM drivers copied onto it.
- 17. Select the destination, and then click OK.



The volume label of Internal Flash Memory is INTER-FLASH.

18. Select LSI Embedded MegaRAID, and then click Next.

Tips

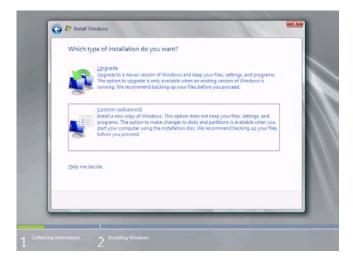
19. Select the edition of the Windows you purchased and the installation method. The screen display differs depending on an OS installation media you are using.

| Windows Server 2008 R2 Standard (Fuel Installation) 64 72442009 Windows Server 2008 R2 Standard (Server Core Installation) 64 71442009 Windows Server 2008 R2 Enterprise (Full Installation) 64 71442009 Windows Server 2008 R2 Enterprise (Full Installation) 64 71442009 Windows Server 2008 R2 Datacenter (Full Installation) 64 71442009 Windows Server 2008 R2 Datacenter (Full Installation) 64 71442009 Windows Web Server 2008 R2 (Full Installation) 64 71442009 Windows Web Server 2008 R2 (Server Core Installation) 64 71442009 Windows Web Server 2008 R2 (Server Core Installation) 64 71442009 Windows Web Server 2008 R2 (Server Core Installation) 64 71442009 Windows Web Server 2008 R2 (Server Core Installation) 64 71442009 Windows Web Server 2008 R2 (Server Core Installation) 64 71442009 Description: Thit option installation complete installation of Windows Server. This installation includes the entrie user interface, and it supports all of the server roles. This installation includes the entrie | Operating system | Architecture | Date modified |
|---|--|--------------|---------------|
| Windows Server 2008 R2 Entreprise (Full Installation) s64 7/14/2009 Windows Server 2008 R2 Entreprise (Server Care Installation) s64 7/14/2009 Windows Server 2008 R2 Entreprise (Server Care Installation) s64 7/14/2009 Windows Server 2008 R2 (Entreprise (Server Care Installation) s64 7/14/2009 Windows Were 2008 R2 (Full Installation) s64 7/14/2009 Windows Werb Server 2008 R2 (Full Installation) s64 7/14/2009 Windows Werb Server 2008 R2 (Server Care Installation) s64 7/14/2009 Windows Werb Server 2008 R2 (Full Installation) s64 7/14/2009 Description: This option installE the complete installation of Windows Server. This installation includes the entire | | x64 | 7/14/2009 |
| Windows Server 2008 R2 Enterprise (Server Core Installation) 464 7/14/2009 Windows Server 2008 R2 Datacenter (Server Core Installation) 464 7/14/2009 Windows Server 2008 R2 Datacenter (Server Core Installation) 464 7/14/2009 Windows Server 2008 R2 Datacenter (Server Core Installation) 464 7/14/2009 Windows Web Server 2008 R2 (Server Core Installation) 464 7/14/2009 Windows Web Server 2008 R2 (Server Core Installation) 464 7/14/2009 Description This option installs the complete installation of Windows Server. This installation includes the entrie 464 | | | |
| Windoors Server 2008 R2 Datacenter (Full Installation) sl-4 7/14/2009 Windoors Server 2008 R2 (Full Installation) sl-4 7/14/2009 Windoors View 2008 R2 (Full Installation) sl-4 7/14/2009 Description: This option installe the complete installation of Windows Server, This installation includes the entire | | | |
| Windows Steve 2008 22 Datacenter (Server Care Installation) 454 7/14/2009 Windows Vetes Server 2008 24 (Dimutatation) 454 7/14/2009 Windows Vetes Server 2008 24 (Dimutatation) 454 7/14/2009 Description: 454 7/14/2009 Description: This option installs the complete installation of Windows Server. This installation includes the entre | | | |
| Windows Web Server 2008 R2 (Full Initialization) 464 7.14/2009 Windows Web Server 2008 R2 (Server Core Installation) x64 7.14/2009 Description: This option initialities the complete installation of Windows Server. This installation includes the entire 101 | | | |
| Windows Web Server 2008 R2 (Server Core Installation) x64 7/14/2009 Description: This option installs the complete installation of Windows Server. This installation includes the entire | | | |
| Description: This option installs the complete installation of Windows Server. This installation includes the entire | | | |
| This option installs the complete installation of Windows Server. This installation includes the entire | Windows Web Server 2008 R2 (Server Core Installation) | x64 | 7/14/2009 |
| | user interface, and it supports all of the server roles. | | |

20. When the following window appears, confirm the content of the license agreement. If you agree, select I accept the license terms and then click Next.



21. When the following message appears, select the installation type. Select **Custom (advanced)** in this case.



22. "Where do you want to install Windows?" window appears.

Note

If the driver was loaded in steps 17 and 18, or if a RAID Controller is not used, go to step 26.

Click Load Driver.

If the following message appears, replace the OS installation media and EXPRESSBUILDER DVD in the optical disk drive, and then click **Browse**.

| Load Driver |
|---|
| To install the driver needed to access your hard drive, insert the installation media containing the driver files, and then click OK. |
| Note: The installation media can be a floppy disk, CD, DVD, or USB flash drive. |
| Browse OK Cancel |

Tips

- If using Internal Flash Memory, you do not need to remove the OS installation media.
- At this time, the message "The Installation media can be a floppy disk, CD, DVD, or USB flash drive." appears on the screen, use the supplied EXPRESSBUILDER DVD or Internal Flash Memory.

23. Specify the following locations, and then click OK.

(When using EXPRESSBUILDER, select the optical disk drive. When using Internal Flash Memory, select the volume of INTER-FLASH.)

When using the N8103-149/150/151 RAID Controller: \001\win\winnt\oemfd\ws2008r2\megasas2

When using the N8103-152 RAID Controller \001\win\winnt\oemfd\ws2008r2\megasas2

When using the N8103-171 RAID Controller: \001\win\winnt\oemfd\ws2008r2\megasas2

When using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive:

\001\win\winnt\oemfd\ws2008r2\megasr1

Tips

The driver does not have to be loaded at this time if it was loaded in steps 17 and 18.

24. Select the necessary driver from the driver list shown, and then click Next.

```
N8103-149/150/151 RAID Controller:

[LSI MegaRAID SAS 9267-8i]

N8103-152 RAID Controller:

[LSI MegaRAID SAS 9265CV-8i]

N8103-171 RAID Controller:

[LSI MegaRAID SAS 9240-8i]

If using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive

[LSI Embedded MegaRAID]
```

Tips When N8103-152 is used, the name of the RAID Controller that appears on the screen differs from the one shown on WebBIOS and Universal RAID Utility. However, this is not a problem.

25. If you used EXPRESSBUILDER DVD, remove it and then insert the OS installation media.

 Tips
 If you have not replaced the OS installation media after loading the driver, the following message may appear.

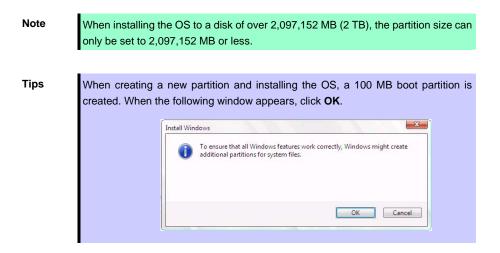
 If it appears, replace the OS installation media, and then click Refresh.

26. When the following window appears, select the disk in which the partition will be created, and then click **Drive options (advanced)**.

If a partition has already been created, go to step 29.

| Disk O Unallocated Space 74.5 GB 74.5 GB |
|--|
| |
| ♣ Befresh ∑Delete ₹Eormat ₩ Nega @ Load Driver ⊉ Estend |

27. Click [New], enter the partition size into the size input box, and then click Apply.



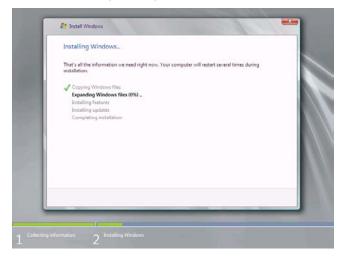
- 28. Select the partition created in step 27, and then click Format.
- 29. Select the created partition, and then click Next.

| Disk 0 Partition 1: System Reserved 100.0 M8 86.0 MB System | Name | Total Size | Free Space | |
|---|------|------------|------------|--|
| | | | | |
| Speciesh ➤ Betersh | | | ije Ngw | |

Tips

The number of partitions displayed differs depending on the hardware configuration.

When the following message appears, Windows installation starts automatically.



30. After a full installation of Windows Server 2008 R2 is completed, the following window appears, prompting you to change your password before logging on. Click **OK**.



31. Change your password, and then click the 😂 button.

Full installations:



Server Core installations:



Tips

- Passwords must fulfill the following requirements in Windows Server 2008 R2.
 - Contains 6 or more characters
 - Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

32. Click OK.



33. Confirm the following according to the settings selected (displayed) in Step 19.

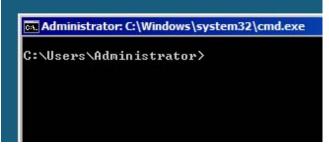
Full installations:

When the Initial Configuration Tasks window appears after you log on, enter the user information.

| al Configuration Tasks | | | | 1 | |
|--|--|--|--------------------------------|---|--|
| Perform the following tasks to configure this server | | | Mindows Server: Standard | | |
| Provide Computer Information | 1 | | Spectying computer information | | |
| Activate Windows | Product ID: | Not activated | | | |
| 📫 Set line zone | Time Zanei | (JTC-08-00) Pacific Time (JJS & Canada) | | | |
| 🔮 Configure metworking | Local Area Connections | Not convected | | | |
| 🚔 Provide computer name and domain | Full Computer Name; Workgroup; | WING15KAUAVAPS WORKEROUP | | | |
| Opdate This Server | | | Updating your Windows server | | |
| Realize automatic updating and feedback | Updates: Feedback: | Not configured Windows Error Reporting off Not perfoqueting in Customer Experience | Ingrovement Program | | |
| Covinical and initial updates | Checked for Updates: Installed Updates: | Navoyr Navoyr | | | |
| Customize This Server | | | Customang your server | | |
| Add roles | Roles: | Norm | | | |
| Add features | Features: | Nove | | | |
| G | Remote Desktop: | Deathed | | | |
| Configure Windows Frewall | firmalt | Fublic On | | | |

Server Core installations:

The command prompt will appear. Set the user information.



Tips

For detailed setup procedures, refer to the Microsoft "Step by Step Guide".

- 34. Install Starter Pack by referring to Chapter 1 (4.4 Installing Starter Pack).
- 35. Install drivers and specify detailed settings by referring to Chapter 1 (4.5 Setting Up Device Drivers).
- 36. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 37. Apply Service Pack as needed according to Chapter 1 (4.7 Applying Service Pack).
- 38. Install the applications as needed by referring to Chapter 1 (4.8 Installing the Applications).
- 39. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with Windows standard installer is now complete.

4.4 Installing Starter Pack

Starter Pack contains drivers customized for this server. Be sure to apply Starter Pack before running the system.

| Important | Also install Starter Pack in the following cases. |
|-----------|---|
| | – The hardware configurations have changed |
| | (If an internal optional device is installed or removed, apply the Starter |
| | Pack. If a dialog box prompting system reboot is displayed, reboot the |
| | system according to the on-screen instructions, and then apply the |
| | Starter Pack.) |
| | –If the system was restored using a restore process |
| | –If a system has been restored using the backup tool |
| | |
| Note | The Scalable Networking Pack (SNP) function is disabled upon Starter Pack |
| | installation is complete. |
| | The setting of SNP function may affect the system performance. |
| | |
| Tips | If the OS is installed by using EXPRESSBUILDER, Starter Pack is already applied. |
| | If the configuration is not changed, you do not need to apply Starter Pack again. |

4.4.1 When using EXPRESSBUILDER DVD

- 1. Log on to the system with the built-in administrator, which has administrative privileges.
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. Start the installer of Starter Pack according to the installation type.

Full installations

Click Integrated Installation on the menu.

| Autorun R | Menu | Version 7.00-000.00 (000) |
|-----------|-------------------------|---------------------------|
| | Instruction Manual | |
| 0 | Versions | |
| P | Integrated Installation | |
| | Applications | |
| K | Exit | |

When the following screen appears, make sure that the **Starter Pack** option is selected, and then click **Install**.

| @ Starter Pa | | |
|---------------------------------|------------------------------|--|
| Application | | |
| | ESMPRO Agent | |
| | ress Report Service | |
| | ress Report Service(HTTPS) | |
| | versal RAID Utility | |
| | fuct Info Collection Utility | |
| III Exp | ressUpdate Agent | |
| | | |

If Starter Pack is already installed, the **Applications** option is selected by default. To install Starter Pack again, select the **Starter Pack** option.

Server Core installations

- (1) From the command prompt, type the following command. (In the example below, the optical disk drive is D drive.)
 - Cd /d D:\001\win\winnt\bin

C:\Users\administrator>cd /d D:\001\win\winnt\bin

(2) Enter the following, and then press <Enter> key.

Pkgsetup.vbs

Tips

D:\001\win\winnt\bin>pkgsetup.vbs

Wait for several minutes without attempting any further operation until the following window appears. On Full Installation, the following progress message appears while the Starter Pack is installed.

| Starter Pack | |
|--|--|
| Installing Starter Pack. | |
| Please wait for a while | |
| >> Copying Files. Checking the system information. Updating drivers. Performing the last process. | |

4. Read the message, and then click **OK**. Starter Pack installation starts.

| 6 | If you install it, click [OK], |
|---|--|
| - | If you wish to cancel it, dick [Cance]]. |
| | This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot. |

Wait until installation completes (about 3 or 4 minutes).

On Full Installation, the following progress message appears while the Starter Pack is installed.

| itarter Pack | |
|---|--|
| Installing Starter Pack. | |
| Please wait for a while | |
| >> Copying Files. | |
| >>> Checking the system information. Updating drivers. | |
| Performing the last process. | |

5. When the following message appears, Starter Pack installation is complete.

Follow the instructions in the message, and remove EXPRESSBUILDER DVD.

| tarter Pa | ack | × |
|-----------|--|---|
| 1 | Installing Starter Pack was completed. The setup reboots for installing drivers. After taking out it from Optical Disc Drive, if the media is set in Optical Disc Drive, dick [OK]. | |
| | ОК | |

6. Click **OK** to restart the system.

Installation of Starter Pack is now complete.

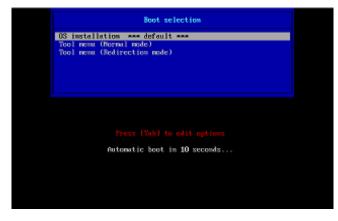
4.4.2 When using Internal Flash Memory

(Optional "Internal Flash Memory" is required)

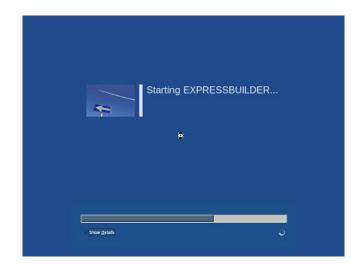
- 1. After installing the operating system, restart the server.
- 2. When "Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network" appears during POST, press <F3> key.



3. When the following message appears, select **OS installation** *** **default** ***. You will automatically advance to the next window, with no need for further input.



The following window appears.



The server starts from EXPRESSBUILDER.



4. Select **English** on the language selection window, and then click **OK**.



5. Click Utilities.

| 2 | Setup | |
|---------|-----------------|---|
| | Utilities | ß |
| Move to | Utilities Menu. | |
| ٢ | Exit | |

6. Click Starter Pack Installation.

| R | AID Configuration Data | |
|-----------------------------|--------------------------|----------|
| F | ile Execution | |
| S S | tarter Pack Installation | k |
| Install Starter Windows. | Pack to the installed | |

7. Read the contents, and then click **Yes**.

| Question | |
|----------|---|
| | Install Starter Pack into the drive where Windows has been installed. Do you want to proceed ? |
| | [Message ID : P2000] |
| ? | |
| | |
| | |
| | Yes No |
| | |

8. When files are copied, click **Close** on the following screen.

| ion |
|--|
| Starter Pack has been copied. |
| Click Close to restart the computer. |
| To install Starter Pack, run the following bat file in Virtual Flash Memory after logging on the Windows. |
| [VIRTUAL_DRV]:\app_pkg.bat |
| [Message ID : P1000] |
| |
| |
| |
| |
| Close |
| Utilitia |

The server then restarts.

Note

You do not need to press <F3> key at this time.

- 9. Proceed application step according to the installation type.
 - **Tips** During setup, a virtual floppy disk drive is temporarily connected. Follow the instructions below to reference the virtual floppy disk drive.

Full installations

Click app_pkg.bat of Floppy disk drive (usually drive A).

Server Core installations

(1) Enter the following command at the command prompt, and then specify the drive letter of Floppy disk drive (usually drive A).

```
Cd /d A:\
```

C:\Users\administrator>cd /d A:\

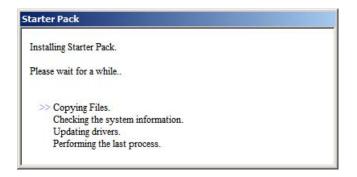
(2) Enter the following, and then press <Enter> key.

app_pkg.bat



Wait until the file copy is complete. (About 1 to 3 minutes.)

On Full Installation, the following progress message appears while the Starter Pack is installed.

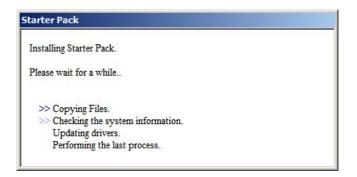


10. Read the message, and then click **OK**. Starter Pack installation starts.

| Starter P | ack | × |
|-----------|---|---|
| ? | Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot. | |
| | OK Cancel | |

Wait until the installation of the Starter Pack is complete. (About 3 to 5 minutes)

On Full Installation, the following progress message appears while the Starter Pack is installed.



11. Click **OK** to restart the system.

| tarter P | ack | > |
|----------|--|-----|
| 1 | Installing Starter Pack was completed. The setup reboots for installing drivers. After taking out it from Optical Disc Drive, if the media is set in Optical Disc Drive, dick [OK]. | |
| | ОК | - 2 |

Installation of Starter Pack is now complete.

4.5 Setting Up Device Drivers

Install and set up device drivers provided for the standard configuration.

For details regarding the installation and setup of a driver for an optional device, refer to the manual supplied with the optional device.

4.5.1 Installing the LAN drivers and BACS (teaming utility)

(1) LAN drivers and BACS

If EXPRESSBUILDER is used for setup, the LAN drivers and BACS will automatically be installed. If the Windows standard installer is used for setup, install Starter Pack to install the LAN driver and BACS.

Important WOL is supported by the standard network adapters only.

Note

To change the LAN driver and BACS settings, log on to the system from a local console using an administrator's account. Remotely changing the settings by using the operating system's remote desktop feature is not supported.
Be sure to select the Internet Protocol (TCP/IP) check box when specifying an IP address.

(2) Optional LAN board

This server supports the following optional LAN boards.

Optional LAN boards: N8104-128/132/133/138/145

Note: N8104-128 is supported by Express5800/R110f-1E only.

The drivers for LAN boards are automatically installed using the OS plug-and-play function.

The LAN driver is not installed if N8104-145 is not installed at the time of installation of the OS by using EXPRESSBUILDER or at installation of Starter Pack, or on a pre-installation model.

Perform the steps below to install the N8104-145 LAN driver manually.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.

If Autorun Menu appears, close the menu.

Tips

EXPRESSBUILDER DVD is unnecessary if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

2. Open Command Prompt, and execute install.bat in the following folder.

When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\001\win\winnt\ws2008x64\r2\lan\intel

If Starter Pack was installed from Internal Flash Memory:

System Drive:\StartPKG\ws2008x64\r2\lan\intel

3. When the following message appears, remove the EXPRESSBUILDER DVD from the optical disk drive,

and then restart the system.

| Installation Completed. | | |
|-------------------------|--|--|
| | | |

Setup is now completed.

• If the LAN driver has been installed in N8104-145, PROSet (Teaming utility) is also installed.

• If an optional LAN board has been added, perform the procedure in "4.5.2 Setting up LAN drivers" for each optional LAN board.

(3) Network adapter name

After installing the LAN drivers, the following network adapter names will be displayed by the Device Manager or BACS.

Network adapters for the standard configuration

Note

Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:

[N8104-128] Broadcom BCM57711 NetXtreme II 10 GigE (NDIS VBD Client) #xx* [N8104-132/133/138] Broadcom NetXtreme Gigabit Ethernet #xx* [N8104-145] Intel(R) Ethernet Server Adapter I340-T2 #xx*

* If there are adapters with the same name, a different identification number will be assigned to xx.

Tips

The ID for N8104-128 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

4.5.2 Setting up LAN drivers

(1) Setting link speed

The transfer rate and duplex mode of the network adapter must be the same as those of the switching hub. Follow the procedure below to specify the transfer rate and duplex mode.

Tips

Using N8104-128 default speed duplex (10Gb Full), there is no problem using switch with "Autonegotiation" speed duplex.

- 1. Open the Device Manager.
- 2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to set. The properties of the network adapter will be displayed.
- On the Advanced or Link Speed tab, set the Speed & Duplex values to the same as those of the switching hub.
- 4. Click OK in the Network Adapter Properties dialog box.
- 5. Restart the system.

The link speed setting is now complete.

(2) Using N8104-128

Using N8104-128 with the server, iSCSI Offload Engine must be disabled.

Follow the procedure below to set it.

- 1. Double-click the **Broadcom Control Suite** icon on the Control Panel window. **Broadcom Advanced Control Suite** starts.
- 2. Set Filter to ALL VIEW, select Broadcom BCM57711 NetXtreme II 10 GigE # xx under Explorer View the Adapter xx (BCM57711 A0) Port x.
- 3. Tab on **Configurations** at the right side screen and then expand **Resource Reservations**.
- 4. Click the **Configure** button on the **Click the button to configure**. The Hardware and Resource Configuration Wizard appears.
- 5. Remove a checkmark from **iSCSI** under **Protocols**, if checked. Select **Next**, and then click the **Apply** button.
- 6. When the following message appears, select Yes.

| Applying the changes will temporarily interrupt the network connection. |
|---|
| The process may take several minutes and the connection will resume |
| afterwards. |
| Do you want to continue? |

- 7. Complete steps 2 to 6 for each N8104-128 network adapter. Then, close the Broadcom Advanced Control Suite.
- Restart the system. Setup is now completed.

(3) Using N8104-132/133/138

Using N8104-132/133/138 with the server, follow the procedure below to set it.

1. Insert EXPRESSBUILDER DVD into the optical disk drive. If Autorun Menu appears, close the menu.

Tips

EXPRESSBUILDER DVD is unnecessary if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

- 2. Double-click pgdyavd_disable.vbs in the following folder.
 - When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\001\win\winnt\ws2008x64\r2\lan\bcom\ws2008x64_r2\lan

• If Starter Pack was installed from Internal Flash Memory:

 $\label{eq:system_drive:StartPKG\ws2008x64\r2\lan\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\ws2008x64_r2\bcom\$

3. When the following message appears, click OK.

| Configuration Completed |
|--|
| [Option:PopUp RLV Disabled(Action:Done)] |
| Reboot the system |
| |

Tips

The message "Action: Non" indicates that the LAN driver is already set.

4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Setup is now completed.

4.5.3 Setting up team/LiveLink (BACS)

Note

• For how to delete an adapter team, refer to Chapter 1 (4.5.3 Setting up team/LiveLink (BACS) - (4) Procedure for deleting team).

Check the following points when deleting an adapter team.

- When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
- If a team exists, delete the team first. If the team is bound to a Hyper-V virtual adapter, unbind the Hyper-V adapter before deleting the team.
- Be sure to specify the same Jumbo Mtu (Jumbo Packet) setting to all the adapters that compose a team.
- Do not configure the teams with adapters that use the iSCSI function.

(1) Team types

The following team types are supported.

- Smart Load Balancing and Failover (without Standby Member)
 - All adapters that compose the team perform communication.

If a communication failure occurs on an adapter, other adapters that compose the team continue the communication.

When the adapter on which the communication failure occurred recovers, it joins the team again and resumes the communication.

• Smart Load Balancing (Auto-Failback Disable) (with Standby Member)

Among the adapters that compose the team, primary adapters except the standby member perform communication.

If a communication failure occurs, the standby member continues the communication.

When the adapter on which the communication failure occurred recovers, it joints the team again and the standby adapter returns to the standby state.

• FEC/GEC Generic Trunking

The combination of multiple adapters into a single channel to provide greater bandwidth.

Important FEC/GEC mode requires switch support.

(2) LiveLink

LiveLink is a function that detects communication route failures of adapters. It periodically investigates the communication status of specified destinations (IP address).

Link packets are sent from each adapter within a team.

If a response to the transmission of a link packet within the specified range is not detected, it is identified as a communication route failure and adapter communication is stopped.

When a response to the submission of a link packet is detected, communication LiveLink identifies communication as having been recovered, and communication using that adapter automatically resumes.

Important • Be sure to set up LiveLink when creating a team in the following cases.

- Smart Load Balancing and Failover (without Standby Member).
- Smart Load Balancing (Auto-Failback Disable) (with Standby Member) using more than two network adapters
- When using Smart Load Balancing (Auto-Failback Disable) (with Standby Member) using two network adapters, setup for LiveLink is not essential.

(3) Setting up team/LiveLink

| Important | Possible combinations of network adapters that compose the team are as follows. |
|-----------|---|
| | When the number of adapters that composes the team is up to four: |
| | Between standard network adapters |
| | Between LAN cards excluding N8104-128 |
| | A standard network adapter and LAN card N8104-128 |
| | When the number of adapters that composes the team is up to two: |
| | Between N8104-128 adapters. |
| | Teaming with another N8104-128 on different board is not supported. |
| | |
| Tips | To edit a team, right-click on the BACS team, and then select Edit Team . Then refer to step 3 and the subsequent steps to edit the team. |

- 1. Double-click the **Broadcom Control Suite** icon on the Control Panel window. Broadcom Advanced Control Suite starts.
- 2. Set **Filter** to **TEAM VIEW**, right-click the adapter to be used for the team, and then select **Create Team** from the short-cut menu.

| Broadcom Advanced Control Suite 4 File View Action Filter Context Tools Teams (SCSI Help | | |
|---|---|-----------------------|
| | Driver Information | |
| Explorer View | Information Configurations Diagnostic | s Statistics |
| E 000 Hosts | Property | Value |
| ⊖ 0. 200000000 | 😑 Vital Signs | |
| WW TOWN | - MAC Address | 50E54986AD60 |
| E T Unassigned Adapters | - Permanent MAC Address | 50E54986AD60 |
| | IPv4 Address | 169.254.156.174 |
| 0007] Broadcom NetXtreme Girabit Ethernet | - Offload Capabilities | LSO,CO |
| | MTU | 1500 |
| <u>M</u> anage Teams | Driver Information | 45000 |
| <u>A</u> dd to a Team | - Driver Version | 15.0.0.9 |
| Create a <u>V</u> LAN | Driver Date | |
| | Driver Name | b57xp32.sys Loaded |
| | Vital Signs The Vital Signs section of the Information tab network adapters that are installed in your sys adapter and general network connectivity. | |
| BROADCOM. | <u>/</u> | NAL-TH |

The Broadcom Teaming wizard appears.

3. Click Next.

| Broadcom Teaming Wizard | <u>? ×</u> |
|---|----------------|
| Nelcome to the Broadcom Teaming Wizard | BROADCOM |
| he Broadcom Teaming Wizard will guide you through the process of creating and modifying teams and/or VLANs lick Next. To work without the wizard, click Expert Mode. | : To continue, |
| Expert Mode | |
| ote: Current work in the Teaming Wizard will be lost when Expert Mode is clicked. | |
| always start in Expert Mode, check the ""Default to Expert Mode on next start"" checkbox. | |
| Default to Expert Mode on next start | |
| Cancel < Back Next > | Preview 💼 |

Note

Do not use Expert Mode.

4. Enter any name into the team name entry column, and then click Next.

| Broadcom Teaming Wizard | <u>? ×</u> |
|--|---------------------------------|
| Creating/Modifying a Team: Team Name You must assign your team a unique name. | BROADCOM. |
| Enter the name for the team: | |
| Team 1 | |
| A team name has a maximum length of 39 characters. The name can us &&W/*?○["" | e any symbolic character except |
| Cancel < Back Next > | Preview 🔝 |

5. Under Team Type, select the type of team you want to create, and then click Next.

| Broadcom Teaming Wizard | <u>?)×</u> |
|--|---|
| Creating/Modifying a Team: Team Type Select the type of team you want to create. | BROADCOM. |
| Team Type | |
| Smart Load Balancing(TM) and Failover (SLB) | |
| C 802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP) | |
| C FEC/GEC Generic Trunking | |
| Enable HyperV Mode | |
| | |
| TCP Offload Engine (TOE) support is supported only on a SLB team type. If a team connections will be offloaded | type other than SLB is selected, no TCP |
| connections will be ornoaded. | |
| | |
| Cancel < Back Next | Preview |
| | |

- Note 802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP) is not supported.
 - When **FEC/GEC Generic Trunking** is selected, the following message will appear. Select **OK**.

"Verify that the network switch connected to the team members is configured correctly for the team type."

• When using Hyper-V, select Enable HyperV Mode.

6. Select the adapters that compose the team, click **Add** to add them to the **Team Members** area, and then click **Next**.

| Available Adapters 008] Broadcom NetXtreme Gigabit Ethernet #2 | TOE | LSO Yes | CO Yes | RSS No | eamab Yes | NDIS 5.1 | MTU 1500 | |
|---|-----|------------|-----------|-----------|--------------|----------------|-------------|---------------|
| col producting officer presses on | 1.0 | 147 | | 1410 | | | 11000 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 1 |
| Add | | | | | | | | Remove |
| Add | | | | | | | | Remove |
| | | 1 | 1 | 1 | | | | Remove |
| Team Members | TOE | LSO | CO | RSS | samab | NDIS | MTU | Remove |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | Remove |
| | TOE | LSO Yes | CO Yes | RSS No | əamab Yes | NDIS 5.1 | MTU 1500 | Remove |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | <u>Remove</u> |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | Remove |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | Remove |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | Remove |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | Remove |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | Remove |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | Remove |
| Team Members | | 100000 | 100000000 | 100000 | | accuration co. | | Remove |
| Team Members | | 100000 | Yes | No | Yes | accuration co. | | Remove |
| Team Members | | 100000 | Yes | 100000 | Yes | accuration co. | | Remove |

Note If FEC/GEC Generic Trunking is selected, go to step 15.

- 7. Proceed according to your desired team type.
 - Smart Load Balancing and Failover (without Standby Member)
 - (1) Select **Do not configure a standby member**.
 - (2) Click Next.

| Broadcom Teaming Wizard | <u>?</u> × |
|---|------------|
| Creating/Modifying a Team: Designating a Standby Member Do you want to designate an available adapter as a standby member? | BROADCOM. |
| -Optionally select if you want a standby member for the team. | |
| Do not configure a standby member. (1) | |
| C Use the following member as a standby member: | |
| [D007] Broadcom NetXtreme Gigabit Ethernet | |
| Enable Auto-Fallback Disable mode | |
| | |
| | |
| | |
| | |
| Cancel Sack Next> | Preview 📊 |
| | |

- Smart Load Balancing (Auto-Failback Disable) (with Standby Member)
 - (1) Select Use the following member as a standby member.
 - (2) Select the adapter that is to be a standby member from the drop-down list.
 - (3) Select Enable Auto-Failback Disable mode.
 - (4) Click Next.

| Broadcom Teaming Wizard | <u>?</u> × |
|---|------------|
| Creating/Modifying a Team: Designating a Standby Member Do you want to designate an available adapter as a standby member? | BROADCOM. |
| Optionally select if you want a standby member for the team. | |
| C Do not configure a standby member. | |
| Use the following member as a standby member: 1 | |
| [0008] Broadcom NetXtreme Gigabit Ethernet #2 | E 2 |
| ✓ Enable Auto-Fallback Disable mode 3 | |
| | |
| | |
| | |
| | |
| | |
| Cancel < Back Next > | Preview 📊 |

Note

Enable Auto-Failback Disable mode is cleared while editing the team. Select it again.

8. When configuring LiveLink, select **Yes**, click **Next**, and then go to step 9. When configuring LiveLink is unnecessary, select **No**, click **Next**, and then go to step 15.

| Broadcom Teaming Wizard | ? |
|--|--|
| Creating/Modifying a Team: Configuring LiveLink Do you want to configure LiveLink? | BROADCOM |
| -Configure LiveLink? | |
| C Yes | |
| ☞ No | |
| LiveLink detects loss of network connectivity beyond the switch that have a live link. | and routes traffic only through team members |
| Cancel < Back Next > | Preview 💽 |

9. You can use the default setting for **Probe interval** and **Probe maximum retries**. If you change these values, select a value from each drop-down list, click the target probe (**Probe Target** *xx*), and then click **Edit Target IP Address**.

| Probe Interval (seconds) | 2 | | |
|--|------------------------|------------|---|
| Probe Maximum Retries | 5 | • | |
| Probe VLAN ID (Optional: 0-4094) | 0 | | |
| Target | | IP Address | - |
| Probe Target 1 Probe Target 2 Probe Target 3 | | | |
| | Edit Target IP Address | | |
| | | | |

| • The setting range of Probe interval (link packet transmission interval) is 1 to 60 (units: seconds). |
|---|
| • The setting range of Probe maximum retries (link packet retry count) is 1 to 10 (times). |
| Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum. If a link down is detected, failover occurs immediately after the link goes down. If takes the time specified for Probe interval (seconds) to recover from the link going down. |
| When using Tagged VLAN, input the VLAN ID for Probe VLAN ID. |

10. In the Target xx text box, enter the IP address of the alive monitoring server, and then click OK.

| P Setting | | |
|----------------|--|---------------------------|
| Team Name | Team 1 | |
| Target 1: | 2010 | |
| Target 2: | 2002 | |
| Target 3: | | |
| Target 4: | | Ī |
| Please enter e | ther an IP∨4 or IPv6 address for the probe | targets IP address field. |
| | | |
| OK | | Cancel |

Tips

• *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.

 If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified. 11. Click Next.

| Probe Interval (seconds) | 2 | | |
|----------------------------------|---------|------------------|---|
| Probe Maximum Retries | 5 | | |
| Probe VLAN ID (Optional: 0-4094) | 0 | | |
| Target | [| IP Address | - |
| Probe Target 1 Probe Target 2 | | | - |
| Probe Target 3 | | 88888888 | |
| | Edit Ti | arget IP Address | |

12. Select an adapter from the Team Members area, and then click Edit Member IP Address.

| Target Members | IPv4 Address | IPv6 Address | |
|---|--------------|--------------|--|
| 007] Broadcom NetXtreme Gigabit Ethernet | A TT Houldon | . to Hourse | |
| 008] Broadcom NetXtreme Gigabit Ethernet #2 | | | |
| | | | |

13. Enter the IP address used for LiveLink communication, and then click OK.

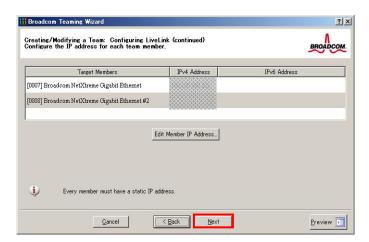
| LiveLink Configu PSetting ——— | |
|----------------------------------|--|
| Name: | [D009] Broadcom BCM57810 NetXtreme II 10 GigE (NDIS VBD Client) #161 |
| IPv4 Address: | 0110 |
| IPv6 Address: | |
| ОК | Cancel |

| N | ote |
|---|-----|
|---|-----|

• Be sure to specify an IP address for LiveLink communication for all the adapters that compose the team. The address specified here is the IP address for LiveLink communication. Specify a different IP address for data communication.

• For *Target xx*, specify an IP address that is unique on the network and with which communication is possible.

14. Click Next.



15. Make sure that **Skip manage VLAN** is selected under **Manage VLAN**, and then click **Next**. It is an example of if you do not want to use the VLAN.

| Broadcom Teaming Wizard | ? |
|---|-----------|
| Creating/Modifying a VLAN: Configure VLAN Support Specify whether you want to create or delete a VLAN. | BROADCOM |
| Manage VLAN | |
| C Add VLAN | |
| C Edit VLAN | |
| Skip Manage VLAN | |
| | |
| | |
| | |
| | |
| | |
| Cancel < Back Next | Preview 📊 |

16. Make sure that **Commit changes to system and Exit the wizard** is selected under **Commit changes**, and then click **Finish**.

| Congratulations! The Teaming Wizard has finished collecting information. How would you like to roceed? | BROADCO |
|---|--|
| -Commit changes | |
| Commit changes to system and Exit the wizard | |
| C Save changes and continue to manage more teams | |
| | |
| | |
| | |
| | |
| | |
| Applying the changes will temporarily interrupt the network connection. | . The process may take several minutes |
| Applying the changes will temporarily interrupt the network connection, and the connection will resume afterwards. | The process may take several minutes |
| Applying the changes will temporarily interrupt the network connection, and the connection will resume afterwards. | The process may take several minutes |

Note

When the message below appears, select Yes.

"Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards. Do you want to continue?" Tips

After creating a team, if the teaming adapter displays like the following image, perform steps 8 to 14 again and correct the LiveLink settings.

When all network adapters that configure the team are in the link down status, this is indicated as shown in the window below. Check the LiveLink settings while all adapters are linked up.

| File View Action Filter Qontext Topols Learns SOGI Help I Filter: TEAM VIEW I | |
|---|---|
| Explorer View | 8 |
| Teams Teams Team 1 Team 1 Team 1 Team 1 (00:00) BASP Virtual Adapters Trimary Adapters Trimary Adapters Standby Adapter | 2 |

- 17. Restart the system.
- After the system starts, start Broadcom Control Suite by clicking the Broadcom Control Suite icon in Control Panel, and confirm that a team has been created. Confirm the team settings on the Information window to the right.
 - Smart Load Balancing and Failover (without Standby Member)

| Information Chattaking 1 | |
|---|---|
| Toam Properties Proces Team Type Capabilities Team Type Capabilities Team Type Capabilities Team MU Driver Varies Driver Varies Driver Varies Probe Max Retries Probe Max Retries Probe Target 1 Team Probe Target 1 Taam Properties Displays information about the team. | Value Team 1 Som Load Balancing(TM0 and Failover (50, 00) Bappp82 bys 6.331 6/15/2011 2000 5 0 |
| | Team Roperties Team Name Team Type Team Type Team Type Team MTu Driver Varia Driver Varia Driver Varia Probe Name Probe Name Probe Name Team Probe Target 1 Team Probe Target 1 |

- Smart Load Balancing (Auto-Failback Disable) (with Standby Member)

| xplorer View É | P Information Statistics | |
|--|---|-----------------------------|
| 😑 📾 Hosts | Property | Value |
| 🖻 🔜 R120d-1E | Team Properties | |
| E Teams | Team Name | Team 1 |
| 🖨 🔢 Team 1 | - Team Type | SLB (Auto-Fallback Disable) |
| | - Team Mode | Primary |
| 🖨 🃂 BASP Virtual Adapters | Team Offload Capabilities | LSO, CO |
| - Team 1 ([0020] BASP Virtual Adapter) | - Team MTU | 1500 |
| 😑 🃂 Primary Adapters | - Driver Name | Baspxp32.sys |
| | - Driver Version | 6.3.31 |
| - 🏭 [0007] Broadcom NetXtreme Gigabit Ethernet | Driver Date | 6/15/2011 |
| 😑 🃂 Standby Adapters | - Probe Interval | 2000 |
| [0008] Broadcom NetXtreme Gigabit Ethernet #2 | - Probe Max Retries | 5 |
| No focol progesti nevitetile digent culonet in | - Probe Vlan ID | 0 |
| | - Team Probe Target 1 | 13150/000/001250/111 |
| | Team Properties | |
| | Displays information about the team. | |

- FEC/GEC Generic Trunking

| Broadcom Advanced Control Suite 4 | | |
|---|---|---|
| File View Action Filter Context Tools Teams iSCSI Help | | |
| Filter: TEAM VIEW 💽 Information 💌 🔽 Team Properties | | |
| Explorer View & | Information Statistics | |
| 은- 1000 Hosts 는- 100 Hosts 다- 111 Hosts | Property Team Properties Team Name Team Type | Team 1 FEC/GEC |
| BASP Virtual Adapters BASP Virtual Adapters Construct a dapters Construct a dapters | - Team Offload Capabilities - Team MTU - Driver Name - Driver Version - Driver Date | LSO, CO, RSS 1500 Basp.pys 1.5.3 12/19/2011 |
| | Team Properties Displays information about the team. | |
| BROADCOM | | 3/A/L'54/ |

Team setup is now complete.

(4) Procedure for deleting team

Note

You must delete teams from Broadcom Control Suite. You cannot delete the team from the team adapter displayed in the Device Manager.

- 1. Double-click the **Broadcom Control Suite** icon on the Control Panel window. Broadcom Advanced Control Suite starts.
- 2. Set **Filter** to **TEAM VIEW**, right-click the adapter to be used for the team, and then select **Delete Team** from the short-cut menu.

| Server Advanced Control Suite 4 | THE REPORT OF TAXABLE PARTY. | _ 🗆 🗙 |
|---|---|---------------------------------------|
| File View Action Filter Context Tools Teams iSOSI Help | | |
| Filter: TEAM VIEW 🔽 Information 🖵 🔽 Team Properties | | |
| Explorer View | Information Statistics | |
| 😑 add Hosts | Property | Value |
| | Team Properties | 12 |
| E Teams | - Team Name | Team 1 |
| The second se | - Team Type | Smart Load Balancing(TM) and Failover |
| Edit Team | - Team Offload Capabilities | LSO, CO |
| 🖻 🥙 🛛 Delete Team 🔤 | - Team MTU | 1500 |
| Fallback BASP Virtual Adapter) | - Driver Name | Baspxp32.sys |
| 🖻 🃂 i Add VLAN | - Driver Version | 6.3.31 |
| | - Driver Date | 6/15/2011 |
| [0007] Broadcom NetXtreme Gigabit Ethernet | - Probe Interval | 2000 |
| [0008] Broadcom NetXtreme Gigabit Ethernet #2 | - Probe Max Retries | 5 |
| | - Probe Vlan ID | 0 |
| | Team Probe Target 1 | |
| | Team Properties Displays information about the team. | |
| | <u> </u> | #\A\\F'_\ |

Note When the message below appears, select Yes. "The selected team will be deleted from system, do you want to proceed? NOTE: Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards."

3. Insert EXPRESSBUILDER DVD into the optical disk drive. If Autorun Menu appears, close the menu.

Tips You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

- 4. Double-click addlvlanstats.vbs in the following folder.
 - When using EXPRESSBUILDER DVD: EXPRESSBUILDER DVD:\001\winnt\ws2008x64\r2\lan\bcom\ws2008x64_r2\lan
 - If Starter Pack was installed from Internal Flash Memory: System drive:\StartPKG\ws2008x64\r2\lan\bcom\ws2008x64_r2\lan

5. When the following message appears, click OK.



6. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Team deletion is now complete.

4.5.4 Setting up team (PROSet)

(1) Team types

The following team types are supported.

- Adapter Fault Tolerance (AFT) is a feature that creates a group containing and automatically converts the process of the working adapter to the other adapter in the group when any trouble occurred on that adapter.
- Adaptive Load Balancing (ALB) is a feature that creates a group containing more than one adapter and enhances the throughput by operating packet transmission from the server by all the adapters. This feature includes AFT feature.
- Switch Fault Tolerance (SFT) is a feature that provides a failover relationship between two ports when each port is connected to a separate switch. 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.

| Note | Static Link Aggregation (SLA) requires switch support. The adapters specified as a group of Adaptive Load Balancing (ALB) can only be connected to the switching hub. Confirm that the setting of the switching hub (L2) port matches the setting of the server network adapter teaming mode. For how to delete an adapter team, refer to Chapter 1 (<i>4.5.4 Setting up team (PROSet)</i> - (3) Procedure for deleting team). Check the following points when deleting an adapter team. When replacing the motherboard or optional LAN boards after an adapter |
|------|---|
| | team is configured, delete the adapter team first. If a team exists, delete the team first. If the team is bound to a Hyper-V virtual |
| | adapter, unbind the Hyper-V adapter before deleting the team. |

(2) Setting up team

| Important | Possible combinations of network adapters that compose the team are as |
|-----------|--|
| | follows. |
| | When the number of adapters that composes the team is up to four: |
| | Between N8104-145 adapters |

- 1. Open the Device Manager.
- 2. Open Network adapters, and then the Intel(R) xxx properties.
- 3. On the **Teaming** tab, select the **Team this adapter with other adapters** check box. Click **New Team**.
- 4. Type the name of the team in Specify a name for the team and click Next.
- 5. Include the adapter to the team, and then click Next.
- 6. Select a team mode, and then click Next.

| Tips | The following team types are supported. |
|------|---|
| | Adapter Fault Tolerance |
| | Adaptive Load Balancing |
| | Static Link Aggregation |
| | Switch Fault Tolerance |
| | |

- 7. Click Finish.
- 8. Click **TEAM:** "*Team name*" from the Device Manager, and then open **Network adapters** to modify the team.

On the Settings tab, click Modify Team button.

9. Refer to the following procedure to set the team member adapter priority status.

| Adapter priority config can be confirmed by the following procedure: |
|---|
| 1. Click TEAM: "Team name" from Device manager, and then open Network |
| adapters. |
| 2. Click Settings and confirm the adapters in team list. |
| |

10. On the **Settings** tab, click **Test Switch**. Click **Run test** on the **Test Switch** screen. Test completes when a message indicating successful operation is displayed.

| Important | Even if the test result is correct, the message below may appear. |
|-----------|---|
| | Check the setting of the switching hub (L2) port. If no problem is found, |
| | ignore the message. |
| | "The switch is configured with aggregated ports, but the team type does |
| | not support port aggregation. The switch is configured with VLAN tagging, |
| | but the team has no VLANs." |
| | "Reconfigure the switch for link aggregation, or disable VLAN tagging on |
| | the switch." |
| | |
| Note | Before running the test, confirm whether the adapter status is "Active" or "Standby" on the Settings tab. If any error is displayed, read the message and change the |

- 11. Confirm the result in Test results.
- 12. Restart the system.

setting of the switching hub.

(3) Procedure for deleting team

- 1. Open the Device Manager.
- 2. Click Network adapters, and then open the TEAM: "Team name" properties.
- 3. Click the Setting tab.
- 4. Click Remove Team button.
- 5. Click **Yes** to the message.
- Confirm that the TEAM: "Team name" adapter does not exist in the Network adapters tree, and then restart the system.

4.5.5 Graphics accelerator driver

The graphics accelerator driver for standard configurations is installed when Starter Pack is installed from EXPRESSBUILDER.

Tips

The graphics accelerator driver is only enabled in Full installations. Standard VGA is used in the case of Server Core installation.

To reinstall drivers separately, complete the following steps.

1. Insert EXPRESSBUILDER DVD into the optical disk drive. If Autorun Menu appears, close the menu.

Tips

You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.

- 2. On the Start menu, point to All programs, Accessories, and then select Explorer.
- 3. Double-click the install.bat icon in the following folder.
 - When using EXPRESSBUILDER DVD: EXPRESSBUILDER DVD:\001\win\winnt\ws2008x64\video
 - If Starter Pack was installed from Internal Flash Memory: System drive:\StartPKG\ws2008x64\video

You will be prompted to confirm the End User License Agreement during this process. Click the **ACCEPT** button to continue.

4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Graphic accelerator driver installation is now complete.

4.5.6 When using a SAS controller (N8103-142)

The driver for SAS controller N8103-142 is automatically installed by Windows Plug-and-Play.

4.5.7 When using a RAID Controller (N8103-160)

The driver for RAID Controller N8103-160 is automatically installed by Windows Plug-and-Play.

4.5.8 When using a Fibre Channel controller (N8190-153/154)

The driver for Fibre Channel controller N8190-153/154 is automatically installed by Windows Plug-and-Play.

4.6 License Authentication

To use Windows Server 2008 R2, confirm whether the license has been authenticated, and if it has not, perform the license authentication procedure.

The following describes the license authentication procedure.

(1) Full installations

1. On the Start menu, click the Control Panel, System and Security, and then select System.

If the following message appears, Windows has already been activated on your system. You do not need to complete this procedure.

| Control Panel + | System and Security + System | | * 🚻 Search C |
|---|---|---|--------------------|
| Control Panel Home | View basic information abo | at your computer | |
| para secondaria da cara | Windows edition | | |
| Device Manager | | 17 Y 16 | |
| Remote settings | Windows Server 2008 R2 5 | landard 1 Corporation. All rights reserved. | |
| Advanced system settings | | | 5 |
| | System | | |
| | Processor: | Intel(R) Xeon(R) CPU E5505 (\$2.13GHz 2.13 GHz 4.05 GB | |
| | Installed memory (RAM): System type: | 4.00 G8 64-bit Operating System | |
| | Pen and Touch: | No Pen or Touch Input is available for this Display | |
| | Computer name, domain, and w | onligroup settings | |
| | Computer name: | WIN-ROSHQKRSEQ4 | Change settings |
| | Full computer name: | WIN ROSHQIR SEQ4 | Contractor Section |
| | Computer description: | | |
| | Workproup: | WORKGROUP | |
| | Windows activation | | |
| | Windows is activated | | all he was |
| 10.000 | Product ID: 200002-2002-000 | 00007-90000 | genuine |
| See also | | | Hitten. |
| Action Center | | | Learn more online |
| Windows Update | | | |

2. For installation from Backup DVD-ROM, replace the product key.

When the following window appears, click Change product key.

| Control Panel - | System and Security - System | | Search Control Panel | |
|------------------------------|------------------------------|------------------------------|----------------------------|----------|
| weilen werden der steren der | FROM MALER, HISTORICA, MARK | uc your compacer | | |
| Control Panel Home | Windows edition | | | |
| Device Manager | Windows Server 2008 R2 St | tandard | | |
| Remote settings | Copyright © 2009 Microsoft | Corporation. All rights rese | rved. | |
| Advanced system settings | | | | |
| | System | | | |
| | Processor: | Intel(R) Xeon(R) CPU | ESS06 @ 2.13GHz 2.13 GHz | |
| | Installed memory (RAM): | 4.00 GB | | |
| | System type: | 64-bit Operating System | | |
| | Pen and Touch: | No Pen or Touch Input is | available for this Display | |
| | Computer name, domain, and w | orkgroup settings | | |
| | Computer name: | WIN-ROSHQKR SEQ4 | S Change | settings |
| | Full computer name: | WIN-ROSHQKR5EQ4 | | |
| | Computer description: | | | |
| | Workgroup: | WORKGROUP | | |
| See also Action Center | Windows activation | | | |
| | | | 100 C | |
| Windows Update | 💦 2 days until automatic a | schvation. Activate Windows | TROW . | |

3. When the following window appears, enter the product key found on the COA label, and then click **Next**.

| Windows Activation | | | |
|--------------------|--|---|--|
| 0 | 🎋 Windows Activation | | |
| | Type your product key | | |
| | The Windows Server 2008 R2 Standard product key can be found on the installation disc holder inside the Windows package. Activation will register the product key to this computer. | | |
| | The product key looks like this: | | |
| | PRODUCT KEY: XXXXXX-XXXXXX-XXXXXX-XXXXXX | | |
| | Where do I find my Windows product key? | | |
| | Product Key: | | |
| | What is activation? | | |
| | Read the privacy statement online | | |
| | Next Cancel | 1 | |

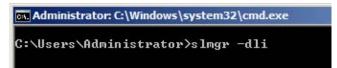
4. Follow the instructions in the following message to start the license authentication process.

| Windows Activation | |
|---|--------|
| Nindows Activation | |
| How do you want to activate Windows? | |
| Use my modem to connect directly to the activation service (recommended if you have a modem) | |
| → Use the automated phone system | |
| | |
| | |
| | |
| | |
| | |
| What is activation? | |
| | |
| | Cancel |

Windows activation is now complete.

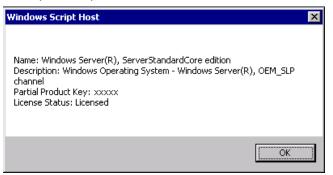
(2) Server Core installations

1. At the command prompt, enter the following, and then press <Enter> key. slmgr -dli



If the following message appears, Windows has already been activated on your system. You do not need

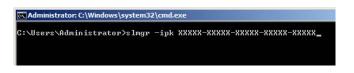
to complete this procedure. Click OK to finish.



2. For installation from Backup DVD-ROM, replace the product key.

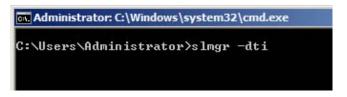
At the command prompt, enter the following, and then press <Enter> key. Set the product key found on the COA label in *PID*.

slmgr -ipk PID



3. Obtain an installation ID for Windows activation.

At the command prompt, enter the following, and then press <Enter> key. ${\tt slmgr}$ -dti



- 4. Reference <code>%systemroot%\system32\sppui\phone.inf</code> for the telephone number of the license authentication 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. Type the confirmation ID you received in step 5.

At the command prompt, enter the following, and then press <Enter> key. *CID* is the confirmation ID that you received from customer service. slmgr -atp *CID*



Windows activation is now complete.

4.7 Applying Service Pack

When applying Service Pack 1, refer to "About Windows Server 2008 R2 and Windows 7 Service Pack 1".

http://www.58support.nec.co.jp/global/download/w2008r2/sp1.html

4.8 Installing the Applications

EXPRESSBUILDER contains applications including NEC ESMPRO Agent and NEC ESMPRO Manager. Some applications stored in EXPRESSBUILDER can be installed collectively by performing the procedures described below. When installing these applications individually, see *Chapter 2 (Installing Bundled Software)*. This feature is only available for Full installations.

- 1. Log on to the system with the built-in administrator, which has administrative privileges.
- 2. Insert the EXPRESSBUILDER DVD into the optical disk drive.
- 3. Click Integrated Installation on the menu.

| Autorun I | Menu | × Version 7.00-000.00 (000) |
|-----------|-------------------------|--------------------------------|
| | Instruction Manual | |
| 0 | Versions | |
| Ŧ | Integrated Installation | |
| | Applications | |
| | Exit | |

On the following screen, make sure that the Applications option is selected.
 Select the check boxes corresponding to the applications to install, and then click Install.

| You cannot select appli Uninstall application if | ications if your system have not installed Starter Pack. | |
|---|--|--|
| | for them to remain the | |
| C Starter Pack | | |
| Applications | | |
| R NEC ESMPRO A | gent | |
| Express Report | Service | |
| Express Report | Service(HTTPS) | |
| Viniversal RAID | Utility | |
| Product Info Co | | |
| I ExpressUpdate | Agent | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Install Cancel | |
| 1 | install Cancel | |
| | | |

Note

• If Starter Pack is already installed, the **Applications** option is selected by default.

- Applications available for installation are selected by default.
- An application that has been already installed need to be uninstalled before installing it again.
- If your system environment does not satisfy the prerequisite for an application, you cannot install it. (For details, refer to the on-screen information and the relevant page of each application.)

The selected applications are automatically installed.

5. When a message appears, click **Restart**, and then remove the EXPRESSBUILDER disk from the optical disk drive.

Now installation of applications is completed.

4.9 Installation When Multiple Logical Drives Exist

Before starting installation, backup data for future use in case of data loss.

(1) Installation process

- Setup with EXPRESSBUILDER

Important Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally.

Refer to Chapter 1 (4.2 Setup with EXPRESSBUILDER), and proceed with setup.

In this case, EXPRESSBUILDER installs the Windows on the first detected hard disk drive or logical drive.

- Setup with Windows standard installer
 - 1. Refer to Chapter 1 (4.3 Setup with Windows Standard Installer), and start setup.
 - 2. When the following message appears, select the partition to which you want to install the operating system.

```
Select the location to which Windows will be installed
```

The order and numbers of the disks displayed on the screen <u>might not match the server's slot</u> of the hard disk drives. <u>Distinguish between the hard disk drives by viewing the hard disk drive</u> <u>capacity and partition size</u> displayed on the screen, and then select a drive to install the Windows system.

Selecting an improper drive might cause an unintentional corruption of the existing data. Be careful when selecting a hard disk drive on which to install the system.

| Important | For details, refer to the following Microsoft website: <u>http://support.microsoft.com/kb/937251/en-us</u> | | | |
|-----------|---|--|--|--|
| | http://support.microsoft.com/kb/937251/en-us | | | |
| | You cannot edit the drive letters for the system volume or boot volume after setup is complete. Make sure that the drive letters assigned in this | | | |
| | after setup is complete. Make sure that the drive letters assigned in this | | | |
| | window are correct, and then proceed with setup. | | | |

3. Refer to *Chapter 1 (4.3 Setup with Windows Standard Installer)*, and proceed to setup Windows with OS standard installer and the instructions.

Tips

The drive letter might change after installation. If you want to change the drive letter, use the procedure shown in *Changing drive letter assignments* below.

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume. If you want to change them, re-install the Windows.

- 1. On the **Start** menu, right-click **Computer** and then select **Management**. Next, launch the Server Manager.
- 2. From the window on the left, select Storage, and then Disk Management.
- 3. Right-click the volume whose drive letter you want to change, and then select **Change drive letter and path**.
- 4. Click Change.
- 5. Click Assign next drive letter, and then select the drive letter you want to assign.
- 6. Click OK.
- 7. When the following message appears, read the contents and then click **OK**.

Some programs are dependent on drive letters, and may not run properly. Continue?

8. Close the Server Manager.

5. Setting Up Windows Server 2008 (32-bit)

Set up Windows Server 2008 (32-bit).

5.1 Before Starting Setup

Read through the cautions explained here before starting setup.

- **EB** : Confirm during Setup with EXPRESSBUILDER
- **OS** : Confirm during Setup with OS standard installer

| Harc | lware o | configuration |
|------|---------|---|
| | | The following hardware configurations require special procedures. |
| EB | OS | Reinstalling to a mirrored volume When you install Windows Server 2008 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume. |
| EB | 08 | Peripheral devices such as RDX/MO Remove an MO device before installing an OS. Some peripheral devices need to be halted before installation. Refer to the manual provided with the peripheral devices for how to set a device appropriate to installation. |
| EB | 08 | DAT, LTO, and similar media Do not set media that is unnecessary to installation during setup. |
| EB | 08 | Connecting to multiple hard disk drives (logical drives) For details on installing operating systems to a system in which multiple logical drives exist, refer to Chapter 1 (5.10 Installation When Multiple Logical Drives Exist). |
| EB | 05 | Reinstalling to hard disk drives that have been upgraded to dynamic disksIf the hard disk drive has been upgraded to a dynamic disk, the operating system cannot bereinstalled to it with the existing partitions.Set up the operating system with the Windows standard installer. |

| EB | OS | Setup wher | n mass memory is installed |
|----|----|--|--|
| | | If mass mer | mory is installed in your system, the large size of paging file is required at installation. |
| | | Thus, the pa | artition size for storing debug information (dump file) may not be secured. |
| | | | b secure the dump file size, use Windows standard installer for setup, and allocate the e space to multiple disks by performing the following steps. |
| | | 1. Set th | ne system partition size to a size sufficient to install the OS and paging file. |
| | | | ify another disk as the destination to store the debug information (required dump file |
| | | | by referring to Chapter 1 (6. Setup for Solving Problems). |
| | | | |
| | | If the hard c | disk drive does not have enough space to write the debug information, set the partition |
| | | size to a siz | ze sufficient to install the OS and paging file, and then add another hard disk drive for |
| | | the dump fil | le. |
| | | | |
| | | Note | If the partition size for installing Windows is smaller than the recommended |
| | | | size, expand the partition size or add another hard disk drive. |
| | | | |
| | | | |
| | | – Spec | ify a drive other than the system drive for "Dedicated Dump File". |
| | | Croat | te the registry shown below by using the Registry Editor and specify the name of |
| | | | cated Dump File. |
| | | Deulo | ateu Dump me. |
| | | <w< th=""><th>hen specifying the file named "dedicateddumpfile.sys" in drive D></th></w<> | hen specifying the file named "dedicateddumpfile.sys" in drive D> |
| | | | Key: HKEY_LOCAL_MACHINE\SYSTEM |
| | | | \CurrentControlSet\Control\CrashControl |
| | | | Name: DedicatedDumpFile |
| | | | Type: REG_SZ |
| | | | Data: D:\dedicateddumpfile.sys |
| | | | |
| | | | |
| | | Not | te the following when specifying Dedicated Dump File: |
| | | • | Pay strict attention to edit the registry. |
| | | • | The setting is applied after restarting the system. |
| | | • | Specify a drive that has free space of "installed memory size + 300 MB" or more. |
| | | • | Dedicated Dump File cannot be placed in dynamic volumes. |
| | | • | To collect memory dump by using Dedicated Dump File, a paging file is required in |
| | | | any drive. |
| | | • | Dedicated Dump File is only used for collecting memory dump, and is not |
| | | | used as virtual memory. Specify the paging file size so that sufficient virtual |
| | | | memory can be allocated in the entire system. |
| | | | , |

| | lated by using the following formula. |
|--|--|
| Size required to install the OS + pag | ing file size + dump file size + application size |
| Full installations | |
| Size required to install the OS | = 9,400 MB |
| | (Windows Server 2008 + Service Pack 2) |
| | = 9,300 MB |
| | (Windows Server 2008 with Service Pack |
| | = 6,300 MB |
| | (Windows Server 2008) |
| Paging file size (recommended) | - |
| Dump file size | = installed memory size + 300MB |
| Application size | = as required by the application |
| Server Core installations | |
| Size required to install the OS | = 5,300 MB |
| | (Windows Server 2008 + Service Pack 2) |
| | = 9,300 MB |
| | (Windows Server 2008 with Service Pack |
| | = 2,200 MB |
| | (Windows Server 2008) |
| Paging file size (recommended) | |
| Dump file size Application size | installed memory size + 300MB as required by the application |
| | |
| partition size is calculated as follows: | ze is 1GB (1,024 MB) and Full installations is selec 1,024 MB + 300 MB + application size = 9,160 |
| The above mentioned partition size is Ensure that the partition size is sufficie | the minimum partition size required for system instant for system operations. |
| • The above paging fil | e sizes are recommended for collecting debug |

| Using BitL | ocker |
|--------------|--|
| EB | If using BitLocker, note the following. Before installing an OS, be sure to create the following two partitions in the hard disk drive: System partition (to store the loader) Boot partition (to store the OS) Note For details, refer to the following document provided in Microsoft TechNet: BitLocker Drive Encryption Step-by-Step Guide Be sure to keep the recovery password secure. Do not keep it near a server running BitLocker. Important If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any more. |
| | The recovery password might be required at startup of the OS after the following: - Replacement of motherboard - Initialization of trusted platform module (TPM) - Change of BIOS setting • To reinstall the operating system into a partition that is encrypted with BitLocker, delete the BitLocker-encrypted partition prior to reinstallation. |
| Installing S | Service Pack |
| EB | If the OS installation media contains Service Pack 2, you do not need to apply the service pack again. You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself. |
| License au | ithentication |
| EBOS | License authentication is required depending on the installation of Windows. For details, refer to <i>Chapter 1 (5.7 License Authentication)</i>. Note Activate within 30 days following installation. A virtual product key is used when installing in a virtual environment. It is not used when directly installing an operating system to a physical server. |

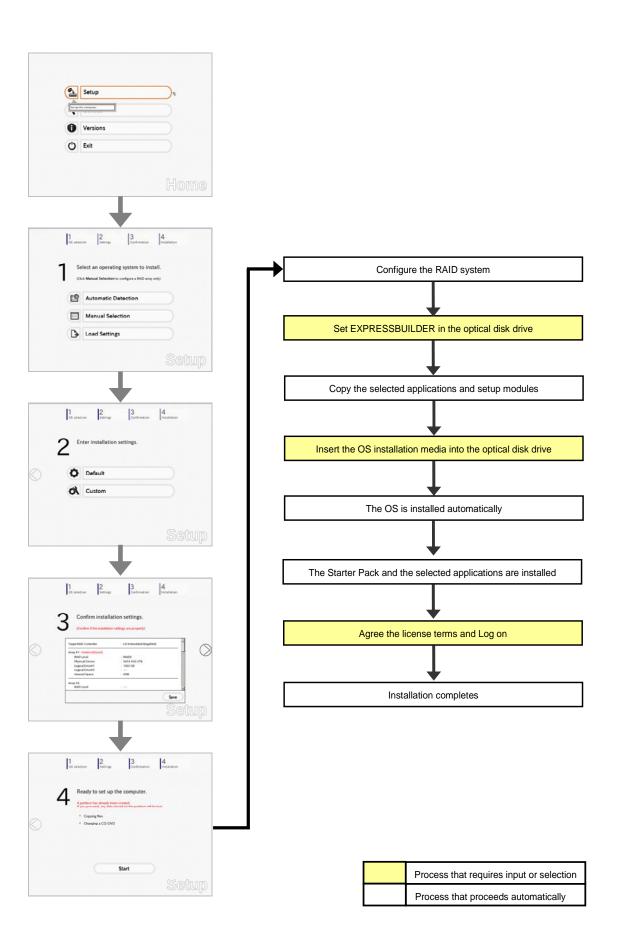
5.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

This feature automatically recognizes the RAID controller connected to the server and configures the RAID system. Therefore the hardware installation of the server needs to be finished by following "*User's Guide*".

| Important | Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: RAID settings Partition Settings Backing up user data, as needed, is recommended. Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup. |
|-----------|---|
| Note | The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP function may affect the system performance. Contact your sales representative for details. When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (4. RAID System Configuration)</i> in "Maintenance Guide" when creating RAID10. |
| Tips | Setup with EXPRESSBUILDER allows you to use a prespecified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally). For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File).</i> |

5.2.1 Setup flow



5.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2008 DVD-ROM*)
- > First Steps Guide
- Either of the following EXPRESSBUILDER
 - EXPRESSBUILDER DVD
 - Internal Flash Memory (optional)
- Prepare if needed:
 - Removable media for Windows OS parameter file
 - Service Pack (If the OS installation media contains Service Pack, you do not need to apply the service pack again.)

Tips

- EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
 - If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD.

5.2.3 Setup procedure

During Setup with EXPRESSBUILDER, parameters are specified through the wizard. You can also save the parameters as one file (a parameter file) to removable media.

Note Read through the items in *Chapter 1 (5.1 Before Starting Setup)* prior to installing Windows.

- 1. Turn peripheral device (such as a display) power on, and then turn the server power on.
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 3. Select OS installation *** default ***.

You will automatically advance to step 4, with no need for further input.

| Boot selection |
|--|
| OS installation default Tool menu (Dernal mode) Tool menu (Dedirection mode) |
| |
| |
| Automatic boot in 10 seconds |
| |
| |
| |

The following window appears.



The server starts from EXPRESSBUILDER.



4. Select English on the language selection window, and then click OK.



5. Click Setup.

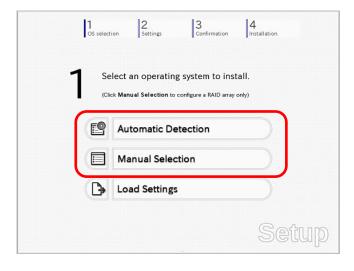
| e | Setup | _₽ |
|-------------|----------|----|
| Set up V | Versions | |
| ٢ | Exit | |

6. On the **OS selection** menu, select the OS to install or specify the parameter file.
□ When not using parameter file : Go to Step 7.
□ When using a parameter file : Go to Step 8.



When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

7. When not using a parameter file, select an OS by either of the following two ways:



To automatically detect the OS on the OS installation media:

(1) Click Automatic Detection.

| 1 2 3 OS selection Settings Confirmation | 4 Installation |
|--|-------------------|
| Select an operating system to ins (Click Manual Selection to configure a RAID array | |
| Automatic Detection | ₽ |
| Select an operating system automatically with an installation dric. | |
| | Setup |

Insert the OS installation media, and then click OK.

| Question | | | |
|----------|-----------------------------|--------|-----------------------------------|
| | To check your OS installati | | e computer. Isage ID : B2014] |
| | | [wie | sage 10 . 52014 J |
| 0 | | | |
| | | | |
| | | | |
| | ок | Canad | |
| | ОК | Cancel | |

(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| 1 | Select an op | erating syste | m to insta | Ι. | |
|---|--------------------|---------------------|-----------------|----|--|
| | (Click Manual Sele | ection to configure | a RAID array on | y) | |
| - | Automa | tic Detectio | on | | |
| | Manual | Selection | | | |
| | Load Se | ettings | | | |
| | | | | | |

To select an OS from the menu:

(1) Click Manual Selection.

| 1 os sel | sction 2 Settings | 3 Confirmation | 4 Installation |
|-------------|---|-------------------|-------------------|
| | elect an operating s | | |
| | Automatic Dete | ection | |
| | Manual Selecti | on | Ø |
| You the I | can select the target OS of sstallation from the menu. | | |
| | | | Setup |

(2) From the Windows list, select Windows Server 2008 x86, and then click OK.

| | Select an operating system to install. | - |
|---|--|---|
| | Windows Windows Server 2008 x86 | |
| | OVMware | |
| 2 | O RAID Configuration Only | |
| | t to the consignation only | |
| | | |
| | | |

(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| 1 OS select | on Settings Confirma | ation Installation |
|----------------|---------------------------------------|--------------------|
| | lect an operating system to | |
| | k Manual Selection to configure a RAI | D array only) |
| E | Automatic Detection |) (|
| • | Manual Selection | |
| | Load Settings | |

8. When using the parameter file, click Load Settings.

| 1 OS selec | tion 2 Settings | 3 Confirmation | 4 Installation |
|---------------|-----------------------|-------------------|-------------------|
| | elect an operating | | |
| E | Automatic De | etection | |
| | Manual Selec | tion | |
| Þ | Load Settings | i | ₽ |
| Load | nstallation settings. | | Setup |

Follow the on-screen instruction to load the parameter file (*.tre).

| Places T root | Name | Modified Tuesday |
|------------------|--------|----------------------|
| 3 File System | 🔁 usbl | Unknown |
| ∳∆dd | | ÷ |

Tips

For the removable media in which the parameter file is saved, see "/mnt/usr_connect/usb*" (* indicates a number).

Click \bigcirc on the right side of the screen.

| | elect an operating | | |
|-----|------------------------------|------|---|
| | Click Manual Selection to co | nly) | |
| | Manual Select | | L |
| < B | Load Settings | | |

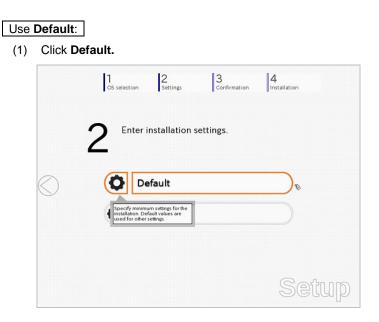
When the parameter file is correctly loaded, the setting is determined. Click **Custom** to check and modify the setting in the wizard. Click \bigcirc on the right side of the screen.

| 2 | nter installation settings. | |
|------|-----------------------------|------|
| 2 | | |
| 0 | Default | |
| ~ 01 | Custom | |
| | | |
| | | |
| | | Setu |

 \rightarrow Go to step 10.

9. Specify the setup parameters by using either of the following methods:

| Default | Default |
|---------|---------|
| | |
| Custom | Custom |



(2) Select the edition of the OS to install from the **Edition** list. Type the password, and then click **Finish**.

| 1 | Basic Settings | | | | |
|---|------------------------|---------------|------------------|-----|-----------|
| | Operating system | ; Windows Ser | ver 2008 x86 | | |
| | Edition | : Standard(Fu | Il Installation) | | |
| | Language | : English 💌 | | | |
| | Typing Administrator P | assword | | | |
| | Administrator Passw | ord | | (R | Required) |
| | Reenter Administrato | or Password | | (11 | lequired) |
| | | | | | |
| 1 | | | | | |
| | | | | | |
| | | | | | |

(3) Click \bigcirc on the right side of the screen.

| 2 | | |
|----|---------|--|
| -0 | Default | |
| 3 | Custom | |

 \rightarrow Go to step 10.

Use Custom:

(1) Click Custom.

| 2 Enter installation settings. Default Custom Specify all settings for the installation. | 1 OS select | ion Settings | 3 Confirmation | 4 Installation |
|--|----------------|----------------------|-------------------|-------------------|
| Custom | 2 ▫ | ter installation s | settings. | |
| Custom | | Default | | |
| Specify all settings for the | | | | |
| | Specify | all settings for the | | |
| | Listena. | | | |

(2) Use this menu to configure the RAID system with the RAID controller detected automatically.

Guide" when creating RAID10.

When using an onboard RAID controller (LSI Embedded MegaRAID):

This function does not support the creation of RAID10 by using the onboard RAID controller. Refer to Chapter 2 (4. RAID System Configuration) in "Maintenance

Wizard Install an operating system to the drive connected to the following RAID controll If the RAID controller is not correct, check the hardware configuration. Device Information RAID Controlle : LSI Embedded MegaRAID Detail Number of Physical Devices ummary of RAID A Array #1 RAID0 (1disk) Logical Drive1 (1861GB) RAID Configuration Skip a RAID Configuration 1 / 10 Page Next Cancel

When creating new logical drives

Note

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives according to the wizard.

Important If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.

When skipping the creation of new logical drives

Select the Skip a RAID Configuration check box, and then click Next.

(3) Check the settings specified for Basic Settings.

Choose **Install Windows using EXPRESSBUILDER**, modify the Edition, Language and Time zone settings as needed, and then click **Next**.

| Wit You | tall Windows by using the : ndows standard install u can install easily both Wi PRESSBUILDER | er. | | | 0.01.11.11.11.11.10.10.10.10.10.10.10.10 | |
|------------|---|---|-------------------------|---------|--|--|
| Г | Basic Settings | | | | | |
| | Operating system | : W | indows Server 2008 | x86 | | |
| | O Use Windows sta | ndard installer ivers to removable r | nedia | | | |
| | Install Windows using EXPRESSBUILDER | | | | | |
| | Edition | Standard(Fi | ull Installation) | * | | |
| | Canguage Time zone | UTC-08-0 | 0) Pacific Time (US & (| Canada) | | |
| | | | | | 4 / 10 Page | |
| - | Back | Next | | | Cancel | |

 (4) Check the settings specified for Partition Settings. Modify the settings as needed, and then click Next.

| 40 (GB) *1TB=1024GB |
|---------------------|
| GB) |
| |
| |
| |
| 5 / 10 Page |
| |

Important

- Backing up user data, as needed, is recommended.
 - Partition size
 - Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (5.1 Before Starting Setup)*.)
 - The maximum partition size is 2,097,152 MB.
 - If you select "Create a new partition" under "Partition Settings", the entire contents of the hard disk drive will be deleted.

(5) Enter the user information, and then click **Next**.

| Personalize the computer. Type Computer Name within 15 cha Administrator Password requires from three of the following cate | s more than 6 characters, and | |
|--|-------------------------------|-------------|
| User information | | |
| Computer name | : 🗹 Auto | |
| | 1-1993-0123456 | (Required) |
| User name | : Administrator | |
| Administrator Password | 2 | (Required) |
| Reenter Administrator Passwo | rd : | (Required) |
| | | 6 / 10 Page |
| | | Cancel |

| Note | Computer name and Administrator Password are required parameters. Enter Administrator Password that satisfies the following conditions: Contains 6 or more characters Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols. |
|------|--|
| Tips | The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name. If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Reenter Administrator password text boxes. |

(6) Check the settings specified for **Network Protocols**. Modify the settings as needed, and then click **Next**.

| If you want to type an IP a | ol. address, choose Custo | m Settings, click A | dvanced. |
|-----------------------------|------------------------------|---------------------|-------------|
| Network protocols | | | |
| Standard sett | ings | | |
| Custom settin | | | |
| Standard adap | ter - Internet Protocol (| IPv4) 🔻 | Advanced |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | 7 / 10 Page |
| | | | |

Tips

The order of entry in **Custom settings** may differ from the numbering of LAN ports.

Note

Even when an optional network board is connected, **Custom settings** only shows standard network boards.

After finishing setup with EXPRESSBUILDER, specify the optional network settings again.

(7) Specify the domain or workgroup. Check the settings, modify them as needed, and then click Next.

| Join this computer to a domain or a v Choose Workgroup or Domain, an | vorkgroup. nd then enter parameters. | |
|--|---|-------------|
| ☐ | : WORKGROUP | |
| O Join a domain Domain name Account name Password Reenter password | | |
| | , | 8 / 10 Page |
| Back Nex | | ancel |

Check the settings of Windows components. (8)

Modify the settings as needed, and then click Next.

| Cho | ose Windows components you want | to install. | |
|------------|---|-----------------------------|-------------------|
| | | | |
| -9 | erver roles | | |
| - C | U Web server(IIS) | Print and Document services | |
| | DHCP server | File services | |
| | DNS server | Hyper-V | |
| | Vindows features | | |
| | SNMP service | Advanced | |
| | Simple TCP/IP services | | |
| | WINS server | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | 9 / 10 Page | |
| | | 9 / 10 Page | |
| | | | |
| | Back Next | 9 / 10 Page Cancel | |
| | Back Next | | 1 |
| | Back Next | |) Full install |
| | Back Next | | Full install |
| | Back Next | | Full install |
| | Back Next | | Full install |
| | Back Next | Cancel | Full install |
| 0 w | | Cancel | Full install |
| - | la lo | | Full install |
| - | | | Full install |
| - | la lo | | Full install |
| - | la lo | | Full install |
| Cho | la lo | | Full install |
| Cho | /tzard Sse Windows components you want | | Full install |

ns

| Server roles | |
|------------------|-----------------------------|
| Web server(IIS) | Print and Document services |
| DHCP server | File services |
| DNS server | Hyper-V |
| Windows features | |
| SNMP service | Advanced |
| WINS server | |
| | 9 / 10 Page |

Server Core installations

(9) Check the settings of applications.Modify the settings as needed, and then click **Finish**.

| Choose applications you want to install. For details about each application, see Descrip | ption. |
|--|--|
| List of applications | Selected applications |
| - | NEC ESMPRO Agent |
| | Express Report Service |
| | Add >> Express Report Service(HTTPS) Universal RAID Utility |
| | << Delete ExpressUpdate Agent |
| | |
| - | |
| - Description | |
| Company | |
| | |
| | |
| | |
| | 10 / 10 Page |
| | |
| | Cancel |

On the following screen, click \bigcirc on the right side of the screen.

| 2 ⁵ | nter installation setting | s. | |
|-----|---------------------------|----|--|
| | Default | | |
| | Custom | | |
| | | | |

10. Check the parameter settings.

To save the settings, click Save.

| | O Confirm installa | tion settings. | | |
|---|----------------------------------|-------------------------------|------|---|
| | (Confirm if the installation | settings are properly) | | |
| | | | E | |
|) | Skip a RAID configuration. | | | C |
| | | | | |
| | Operating system | : Windows Server 2008 x80 | 5 | |
| | (Install Windows using EXPRESSBU | LDER) | | |
| | Edition | : Standard(Full Installation) | | |
| | Language | : English | | |
| | | | Save | |
| | | | | |

Click \bigcirc on the right side of the screen.

11. The setup process starts.

Click Start to continue setup.

| | 1 Selection 2 Settings 3 Installation |
|------------|---|
| \bigcirc | Ready to set up the computer. A partition has already been created. B you proceed, any data stored on the partition will be lost. Configuing RAID system Copying files Changing media |
| | <u>start</u> Setup |

If you need to suspend setup due to reasons such as backing up data, restart the setup process from the beginning.

12. If the server has started from the EXPRESSBUILDER DVD, insert the EXPRESSBUILDER disk into the optical disk drive, and then click **OK**.

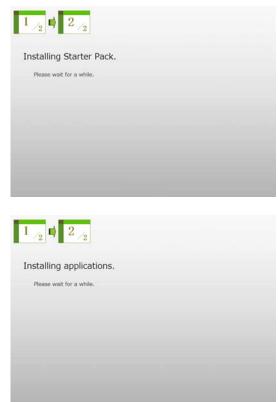
| | Question |
|------------------------|------------------------|
| [Message ID : J2002] | Insert EXPRESSBUILDER. |
| [message iD . 12002] | |
| | 0 |
| | - |
| | |
| | |
| Cancel | ОК |

13. Insert the OS installation media into the optical disk drive, and then click OK.

| | Insert an OS insta | llation disc for inst | | |
|---|--------------------|-----------------------|---------|-----------------|
| | | | [Messa | ge ID : J2000] |
| | | | | |
| 0 | | | | |
| | | | | |
| | | | | |

Windows Server 2008 (32-bit Edition) is installed automatically.

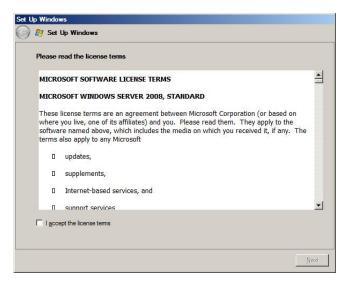
14. The Starter Pack and the selected applications are automatically installed.



Screen displayed when Starter Pack is being installed

Screen displayed when an application is being installed

15. When the software license agreement window appears, select **I accept the license terms**, and then click **Next**.



16. When the message "Thank you" appears, click Start.

| Set Up Windows | | |
|--------------------|---------------------------------------|-------|
| 🌀 🝠 Set Up Windows | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Thank you | |
| | · · · · · · · · · · · · · · · · · · · | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | Start |
| | | |

Tips

It may take several minutes until the logon window appears. Wait until it appears, even though nothing changes on the screen.

17. When the following message appears, press <Ctrl> + <Alt> + keys.



Full installations:

When the following screen appears, enter your password into the text box, and then click 🤤.



Server Core installations:

When the following screen appears, click Other User.

| | Other User | |
|---|---|--|
| 0 | Cancet Windows Server 2008 Standard | |

When the following screen appears, enter administrator into **User** text box and the specified password into **Password** text box, and then click **S**.



18. Click **OK**.



- 19. Follow the instructions described in *Chapter 1 (5.5 Setting Up Device Drivers)* to set up the device drivers supplied with this server as standard.
- 20. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 21. Apply Service Pack as needed according to Chapter 1 (5.8 Applying Service Pack).
- 22. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with EXPRESSBUILDER is now complete.

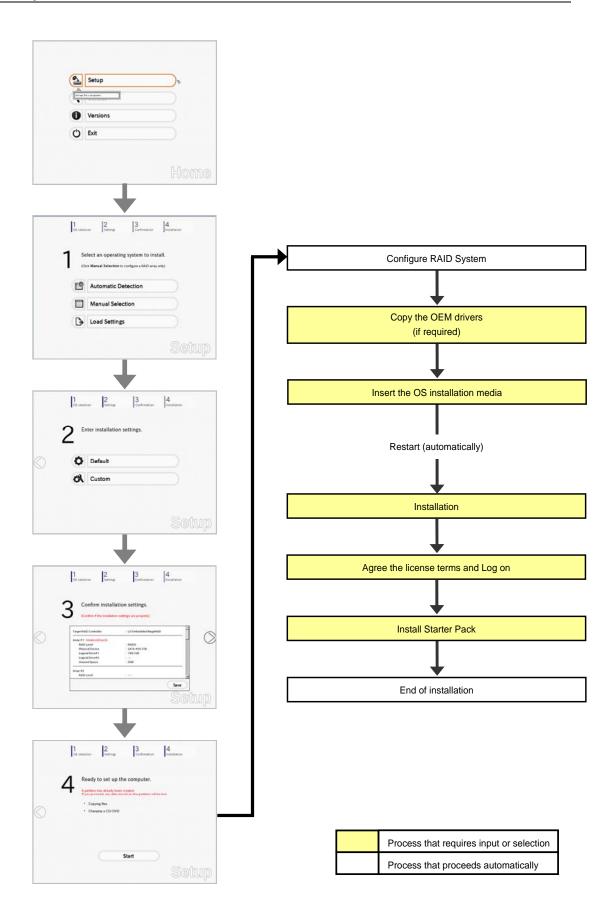
5.3 Setup with Windows Standard Installer

This section describes how to install Windows with Windows Standard Installer.

This feature automatically recognizes the RAID controller connected to the server and configures the RAID system. Therefore the hardware installation of the server needs to be finished by following "*User's Guide*".

| Important | Setup with Windows standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: -RAID settings Backing up user data, as needed, is recommended. |
|-----------|--|
| | |
| Note | When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (4. RAID System Configuration)</i> in "Maintenance Guide" when creating RAID10. |
| | |
| Tips | Setup with Windows Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally). For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>. |

5.3.1 Setup flow

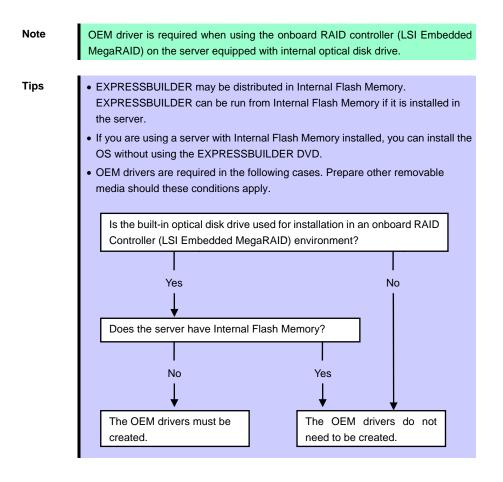


5.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as Windows Server 2008 DVD-ROM)
- > First Steps Guide
- Either of the following EXPRESSBUILDER
 - EXPRESSBUILDER DVD
 - Internal Flash Memory (optional)
- Prepare if needed:
 - · Removable media for Windows OS parameter file
 - Removable media for creating OEM drivers (Windows Server 2008 x86)
 - Service Pack

(If the OS installation media contains Service Pack, you do not need to apply the service pack again.)



5.3.3 Setup procedure

Note

Before starting setup, refer to *Chapter 1 (5.1 Before Starting Setup)*. It describes how to make partitions.

- 1. Turn peripheral device (such as a display) power on, and then turn the server power on.
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- Select OS installation *** default ***.
 You will automatically advance to step 4, with no need for further input.

| Boot selection | |
|---|--|
| OS installation default Tool menu (Redirection mode) Tool menu (Redirection mode) | |
| Press [Tob] to edit options Automatic boot in 10 seconds | |

The following window appears.

| Starting EXPRESSBUILDER | |
|-------------------------|--|
| • | |

The server starts from EXPRESSBUILDER.



4. Select English on the language selection window, and then click OK.



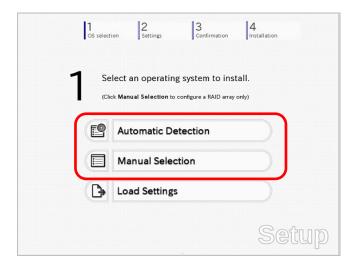
5. Click Setup.

| Set up | Setup | ₽ |
|--------|----------|---|
| Ò | Versions | |
| ٢ | Exit | |

6. On the **OS selection** menu, select the OS to install or specify the parameter file.
□ When not using parameter file: Go to Step 7.
□ When using a parameter file: Go to Step 8.

Note When setting up again, an already saved parameter file can be read, so that you can skip inputting parameters in the wizard.

7. When not using a parameter file, select an OS by either of the following two ways:



To automatically detect the OS on the OS installation media: (1) Click Automatic Detection.

| 1 2 3 selection 2 Settings 3 Confirmatio | on Installation |
|---|-----------------|
| Select an operating system to it (Click Manual Selection to configure a RAID a | |
| Automatic Detection | ₽ |
| Select an operating system automatically with an installation disc. | |
| | Coture |

Insert the OS installation media, and then click $\ensuremath{\text{OK}}$.

| 0 | Question | | 3 Confirmation | 4 Installation | |
|---|----------|-------------------------|-----------------------------------|------------------------------------|--|
| | To che | eck your OS installatio | on disc, insert it into t [Me | ne computer. ssage ID : B2014] | |
| | 0 | | | | |
| | | | | | |
| | | | | | |
| | | ОК | Cancel | | |

(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

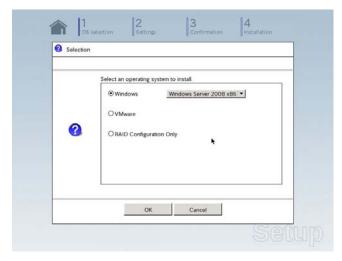
| | elect an operating system to install. | |
|----------|---|--|
| (C) | lick Manual Selection to configure a RAID array only) | |
| e | Automatic Detection | |
| | Manual Selection | |
| P | Load Settings | |

To select an OS from the menu:

(1) Click Manual Selection.

| 05 selection | ∠ Settings | 3 Confirmation | 4 Installation |
|--|----------------------------|-------------------|-------------------|
| | operating sy | | |
| Auto | matic Detec | tion | |
| Man | ual Selectio | n | Dø |
| You can select the ti the installation from | arget OS of the menu. 5 | | |
| | | | Setup |

(2) From the Windows list, select Windows Server 2008 x86, and then click OK.

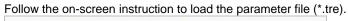


(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 9.

| 1 | Sele | ect an operatir | ng system to | install. | |
|---|--------|---------------------|--------------------|-------------|--|
| 1 | (Click | Manual Selection to | o configure a RAID | array only) | |
| | 9 | Automatic D | etection | | |
| • | | Manual Sele | ction | | |
| 0 | 3 | Load Setting | s | | |

8. When *using* the parameter file, click **Load Settings**.

| 1 OS select | ion Settings | 3 Confirmation | 4 Installati | on |
|----------------|-----------------------|-------------------|-----------------|--------------|
| | lect an operating | | | |
| e | Automatic De | tection | | |
| | Manual Select | tion | | |
| Þ | Load Settings | | | [®] |
| Load in | istallation settings. | | S | setup |



| Places | Name Coron1 | Modified Toesday |
|-------------|----------------|----------------------|
| File System | D usb1 | Unknown |
| | | |
| | | |
| | | |
| ♣∆dd = 80 | move | |
| | | X ⊆ancel B⊇pen |

Tips

For the removable media in which the parameter file is saved, see "/mnt/usr_connect/usb*" (* indicates a number).

Click \bigcirc on the right side of the screen.

| | lect an operating s | - | | |
|------|----------------------------|------------------------|-----|---|
| (Ci | ck Manual Selection to cor | figure a RAID array on | ly) | C |
| e | Automatic Dete | ection | | (|
| | Manual Selection | on | | |
| × P. | Load Settings | | | |

When the parameter file is correctly loaded, the setting is determined. Click **Custom** to check and modify the setting in the wizard. Click \bigcirc on the right side of the screen.

| 2 Enter ins | tallation settings. | |
|-------------|---------------------|---|
| Defa | ult | ſ |
| ✓ 🕅 Cus | | l |
| | | |

 \rightarrow Go to step 10.

9. Click Custom.

| 2 Enter installation settings. |
|---|
| Default Custom |
| Custom |
| Specify ell settings for the |
| Specify all settings for the installation. |
| |

(1) Use this menu to configure the RAID system with the RAID controller detected automatically.



When using an onboard RAID controller (LSI Embedded MegaRAID): This function does not support the creation of RAID10 by using the onboard RAID controller. Refer to *Chapter 2 (4. RAID System Configuration)* in "*Maintenance Guide*" when creating RAID10.

| Device Information | | | |
|--|-----------|-----------------------|------------|
| RAID Controller | | : LSI Embedded MegaRA | ID Detail |
| Number of Physical [| evices | : 1 | 200 A |
| -Summary of RAID | | | |
| Array #1 RAID0 (1disk) Logical Drive1 (186 | 1GB) | | <u>-</u> |
| RAID Configuration | | | |
| Skip a RAID Conf | iguration | | |
| | | | 1 / 10 Pag |

When creating new logical drives

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives according to the wizard.

Important If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.

When skipping the creation of new logical drives

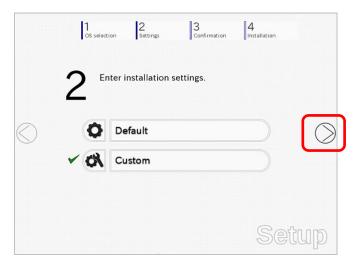
Select the Skip a RAID Configuration check box, and then click Next.

(2) Check the settings specified for Basic Settings.

Choose **Use Windows standard installer**, modify the settings as needed, and then click **Next**. If you need to copy the OEM driver, select the **Copy OEM drivers to removable media** check box.

| Wine You | II Windows by using the st dows standard installe can install easily both Win RESSBUILDER. | r. | | | |
|----------------|---|--|------------------|-----------------|-------------|
| [⁶ | Basic Settings Operating system | : Win | dows Server 2008 | x86 | |
| | Use Windows stan Copy OEM drive | dard installer vers to removable me | dia | | |
| | O Install Windows usin Edition Language Time zone | Standard(Full | | (*) Cariada) | (V) |
| | | | | | 4 / 10 Page |
| | Back | Next | | | Cancel |

On the following screen, click \bigcirc on the right side of the screen.



10. Check the parameter settings. To save the settings, click **Save**.

| | 1 OS selection Setting | 3 Confirmation | Installation |
|-------|-------------------------------|---------------------------|--------------|
| | | | |
| | Confirm instal | lation settings. | |
| | .5 | | |
| | (Confirm if the installati | on settings are properly) | |
| | | | N |
| <hr/> | Target RAID Controller | : LSI Embedded MegaRAII | |
|) | Array #1 : Initialized(Quick) | | (|
| · | RAID Level | RAIDO | |
| | Physical Device | : SATA #00 2TB | |
| | Logical Drive#1 | : 1861GB | |
| | Logical Drive#2 | : | |
| | Unused Space | : OGB | |
| | Array #2 | | |
| | RAID Level | : *** | |
| | | | |
| | | | Save |
| | | | |

Click \bigcirc on the right side of the screen.

11. The setup process starts.

Click Start to continue setup.

| | 1 2 3 4 OS selection Settings Confirmation Installation |
|------------|---|
| | Ready to set up the computer. |
| | A partition has already been created. If you proceed, any data stored on the partition will be lost. |
| | Configuring RAID system |
| \bigcirc | Copying OEM drivers |
| \odot | * Changing a CD/DVD |
| | Installing an OS |
| | |
| | Start |
| | Setup |

If you need to suspend setup due to reasons such as backing up data, restart the setup process from the beginning.

Continue setup according to the on-screen messages.
 When copying the OEM driver, the following message appears.
 Insert the removable media into the disk drive, and then click Yes.

| | Question | | | | | | |
|---|----------|-----------|-----------------|-----------|-----------|---|--|
| _ | | Copy OEN | A drivers (Wind | ows Serve | er 2008). | | |
| | | Set remov | able media, and | then clic | k Yes. | | |
| | | [Message | ID : G2000] | | | | |
| | 9 | | | | | | |
| | ? | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| _ | | | | - | | 1 | |
| | | | Yes | | No | | |

When the following screen appears, insert the OS installation media into the disk drive, and then click **OK**.

13. The server reboots automatically.

If you use Internal Flash Memory, press <F3> key when the following message appears during POST.

Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network

Note

Since the OS installation media is set in the optical disk drive in Step 12, boot the system from the optical disk drive having higher boot priority, not from Internal Flash Memory.

14. Run from the OS installation media.

If a bootable operating system is already installed on the hard disk drive, press <Enter> key while the message "Press any key to boot from CD or DVD..." is displayed on the top of the screen.

The boot sequence proceeds and the message "Windows is loading files..." appears.

Note

If "Windows is loading files..." message does not appear, <Enter> key was not pressed correctly. Reboot and retry.

This step is unnecessary if no bootable operating system exists.

15. When the following window appears, click Next at default settings.



16. Click Install Now 😂.

Windows Server 2008 (32-bit) installation starts.



- If the following message appears, go to step 17.
- If it does not, go to step 19.



Tips

- The above message appears if you are using an onboard RAID Controller (LSI Embedded MegaRAID) in an environment equipped with an internal DVD drive. • When this message appears, the message will say "CD, DVD, or USB flash
 - drive", but you must use Internal Flash Memory or removable media with the OEM drivers copied onto it.
- 17. Select the destination, and then click OK.

| If using OEM drivers (mad | e at step 12) | | | |
|---|---|--|--|--|
| Removable media:\ | OEM_driver\ws2008\megasr1 | | | |
| If using Internal Flash Men | nory | | | |
| Internal Flash Memory:\001\win\winnt\oemfd\ws2008\megasr1 | | | | |
| Tips | The volume label of Internal Flash Memory is INTER-FLAS | | | |

The volume label of Internal Flash Memory is INTER-FLASH.

- 18. Select LSI Embedded MegaRAID, and then click Next.
- 19. When the following window appears, enter the product key and then click Next. Note that this window does not appear if you use Backup DVD-ROM for installation.

| Type your product key for activation You can find you product key on your computer or on the installation disc holder inside the Windows package. Although you are not required to enter your product key non to install, failure to enter it may retuil in the loss of data, information, and programs. You may be required to are not may retuil in the loss of data, information, and programs. You may be required to are not may be required to an of Windows. We strongly solvise that you enter your product identification tay now. The product key sticker looks like the: | You can find you product key on your computer or on the installation disc holder inside the Windows package. Although you are not required to enter your product key now to install, failure purchase another edition of Windows. We strongly advise that you enter your product identification key now. The product key sticker looks like the: Product key (dashes will be added automatically): Product k | 💐 Install Windows | | |
|---|--|---|---|--|
| Windows package. Although you are not required to enter your product key now to install, failure to enter it may result in the loss of data, information, and programs. You may be required to purchase another edition of Windows. We strongly advise that you enter your product identification kay now. The product key sticker looks like this: Product key (dashes will be added automatically): Automatically activate Windows when I'm online | Windows package. Although you are not required to enter your product key, now to install, failure to enter it may result in the loss of data, information, and programs. You may be required to kay now. The product key sticker looks like the: Product key (dashes will be added automatically): Automatically activite Windows when I'm coline What is activition? | Type your product key for act | livation | |
| Product key (dashes will be added automatically): | Product key (dashes will be added automatically): Produc | Windows package. Although you are n to enter it may result in the loss of data purchase another edition of Windows. | not required to enter your produc a, information, and programs. Yo | t key now to install, failure ou may be required to |
| Product key (dashes will be added automatically): | Product key (dashes will be added automatically): Product key (dashes will be added automatically): Product key (dashes will be added automatically): Product set vation? | The product key sticker looks like this: | | |
| Automatically activate Windows when I'm colline | General G | 11111-11111-11111-11111-11111 | | |
| Automatically activate Windows when I'm online | Automatically activate Windows when I'm online What is activation? | Product key (dashes will be added auto | omatically): | |
| | What is activation? | - | 12020 | |
| What is activation? | 5 | Automatically activate Windows wh | hen I'm online | |
| | 5. Di | What is activation? | | |
| | Eread our privacy statement | | | |
| Bead our privacy statement Net | | Bead our privacy statement | | |
| | | | | |

20. When the following window appears, select the Windows edition you have purchased. Select I have selected the edition of Windows that I purchased check box, and then click Next. If the product key was entered, only the corresponding editions are displayed.

| Windows Version |
|--|
| Vindeous Server 2008 Standard (Full Installation) Windeous Serve 2008 Standard (Full Installation) Windeous Serve 2008 Detacement (Vil Installation) Windeous Server 2008 Detacement (Vil Installation) Windeous Server 2008 Enterprist (Server Cere Installation) Windeous Server 2008 Datacement (Server Cere Installation) Windeous Server 2008 Datacement (Server Cere Installation) |
| If you enter your product key, Windows can automatically determine which edition you purchased. To enter your product key, click the Back button to return to the previous page. If you choose not to enter your product key now, make sure that you select the edition of Windows that you purchased. If you select the wrong edition, you will need to risk the edition, or you will need to return the correct edition of Windows ster and potentially to the fields and information. |
| I have selected the edition of Windows that I purchased |
| Net |

Tips

The Windows versions that appear on the screen differ depending on the OS installation media used.

21. When the following window appears, confirm the content of the license agreement. If you agree, select I accept the license terms and then click Next.

| Please read the license terms | |
|--|-----|
| MICROSOFT SOFTWARE LICENSE TERMS MICROSOFT WINDOWS SERVER 2008, STANDARD | - |
| These license is a series are an agreement between Microsoft Corporation (or based on where you like, one of its affiliates) and you. Please need them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft. | |
| 0 updotes, 0 supplements, | |
| Internet-based services, and support services | |
| Egrcept the license terms | |
| | Net |

22. When the following message appears, select the installation type. Select **Custom (advanced)** in this case.

| Which ty | pe of installation do you want? |
|-------------|--|
| 1 | Upgrade Keep your files, settings, and programs and upgrade Windows. Be sure to back up your files before upgrading. |
| V | Cuttom (advanced) Install a clean copy of Windows, select where you want to install it, or make changes to disks and garathion. This option does not keep your files, settings, and programs. |
| Help me de | scide |
| Upgrade I | has been disabled |
| - To upgrad | fe, start the installation from Windows. |
| | |
| | |

23. "Where do you want to install Windows?" window appears.

Note

If the driver was loaded in steps 17 and 18, or if a RAID Controller is not used, go to step 27.

Click Load Driver.

If the following message appears, replace the OS installation media and EXPRESSBUILDER DVD in the optical disk drive, and then click **Browse**.

| Load Driver | | | | |
|---|----|--------|--|--|
| To install the driver needed to access your hard drive, insert the installation media containing the driver files, and then click OK. | | | | |
| Note: The installation media can be a floppy disk, CD, DVD, or USB flash drive. | | | | |
| Browse | OK | Cancel | | |

Tips

- If using Internal Flash Memory, you do not need to remove the OS installation media.
- At this time, the message "The Installation media can be a floppy disk, CD, DVD, or USB flash drive." appears on the screen, use the supplied EXPRESSBUILDER DVD or Internal Flash Memory.
- 24. Specify one of the following locations, and then click **OK**. (When using EXPRESSBUILDER, select the optical disk drive. When using Internal Flash Memory,

select the volume of INTER-FLASH.)

When using the N8103-149/150/151 RAID Controller:

\001\win\winnt\oemfd\ws2008\megasas2

When using the N8103-152 RAID Controller:

\001\win\winnt\oemfd\ws2008\megasas2

When using the N8103-171 RAID Controller:

Tips

When using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive:

\001\win\winnt\oemfd\ws2008\megasr1

The driver does not have to be loaded at this time if it was loaded in steps 17 and 18.

25. Select the necessary driver from the driver list shown, and then click Next.

When using the N8103-149/150/151 RAID Controller:

[LSI MegaRAID SAS 9267-8i]

When using the N8103-152 RAID Controller:

[LSI MegaRAID SAS 9265CV-8i]

When using the N8103-171 RAID Controller:

[LSI MegaRAID SAS 9240-8i]

When using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive

[LSI Embedded MegaRAID]

Tips When N8103-152 is used, the name of the RAID Controller that appears on the screen differs from the one shown on WebBIOS and Universal RAID Utility. However, this is not a problem.

- 26. If you used EXPRESSBUILDER DVD, remove it and then insert the OS installation media.
- Select the disk in which the partition will be created, and then click **Drive options (advanced)** If a partition has already been created, go to step 30.
- 28. Click New, enter the partition size into the size input box, and then click Apply.

When installing the OS to a disk of over 2,097,152 MB (2 TB), the partition size can only be set to 2,097,152 MB or less.

29. Select the partition created in step 27, and then click Format.

Note

30. In the window below, select the created partition, and then click Next.

| Name | | Total Size | Free Space Type | |
|----------------------------|--------------|------------|-----------------|-----|
| Dick 0 Unall | ocated Space | 74.5 GB | 74.5 GB | |
| € Befresh € Load Driver | N Delete | @Eormat | ÷ Neg | Net |

When the following message appears, Windows installation starts automatically.

| Installing Windows | |
|---|--|
| That's all information we need right now. Your computer | |
| will restart several times during installation. | |
| ✓ Copying files | |
| Expanding files | |
| Installing features | |
| Installing updates | |
| Completing installation | |
| | |

| Tips | messag | time, if EXPRESSBUILDER DVD is still in the opti e prompting you to replace it with an OS installation EXPRESSBUILDER DVD and then insert the OS insta | on media appears. |
|------|--------|--|-------------------|
| | | Install Windows – Insert Disc | |
| | | Please insert Windows installation disc 1. | |
| | | | |
| | | OK Cancel | |

31. The content displayed differs depending on what you selected in step 20. Confirm the following, and then proceed.

Full installations:

(1) After setup of Windows Server 2008 is completed, the following window appears, prompting you to change your password before logging on. Click **OK**.



(2) Change your password, and then click the ジ button.



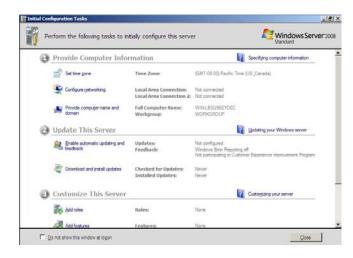
Tips

| Passwords must fulfill the following requirements in Windows Server 2008. |
|---|
| Contains 6 or more characters |
| - Contains characters from at least three of the following categories: numbers, |
| uppercase letters, lowercase letters, and symbols. |

(3) When the following message appears, click OK.



(4) When the **Initial Configuration Tasks** window appears after you log on, enter the user information.



Server Core installations:

 If the following message appears after Windows Server 2008 setup has completed, press <Ctrl> + <Alt> + keys.



(2) When the following message appears, click **Other User**.



(3) When the following window appears, enter administrator into the **User** text box, and then click **S**. Password entry is not required at this time.

| | edministrator Password |
|---|---------------------------------|
| | Cancel |
| G | Windows Server 2008 Standard |

(4) The following window appears, prompting you to change your password before logging on. Click **OK**.

| The user's password must be changed before logging on the first time. | |
|---|--|
| OK Cancel | |
| Windows Server 2008 Standard | |

(5) Change your password, and then click S.

| | administrator |
|---|--------------------------|
| | Password New password |
| | Confirm password |
| | Cancel |
| C | Standard Server 2008 |

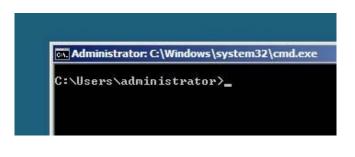
Tips

- Passwords must fulfill the following requirements in Windows Server 2008. – Contains 6 or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

(6) When the following message appears, click OK.



(7) The command prompt will appear. Set the user information.



Tips

For detailed setup procedures, refer to the Microsoft "Step by Step Guide".

- 32. Install Starter Pack by referring to Chapter 1 (5.4 Installing Starter Pack).
- 33. Install drivers and specify detailed settings by referring to Chapter 1 (5.5 Setting Up Device Drivers).
- 34. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 35. Apply Service Pack as needed according to Chapter 1 (5.8 Applying Service Pack).
- 36. Install the applications as needed by referring to Chapter 1 (5.9 Installing the Applications).
- 37. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with Windows standard installer is now complete.

5.4 Installing Starter Pack

Starter Pack contains drivers customized for this server. Be sure to apply Starter Pack before running the system.

| Important | Also install Starter Pack in the following cases. The hardware configurations have changed (If an internal optional device is installed or removed, apply the Starter Pack. If a dialog box prompting system reboot is displayed, reboot the system according to on-screen instructions, and then apply the Starter Pack.) If the system was restored using a restore process |
|-----------|---|
| | If a system has been restored using the backup tool |
| Note | The Scalable Networking Pack (SNP) function is disabled upon Starter Pack installation is complete. The setting of SNP function may affect the system performance. Contact your sales representative for details. |
| | |
| Tips | If the OS is installed by using EXPRESSBUILDER, Starter Pack is already applied. If the configuration is not changed, you do not need to apply Starter Pack again. |

5.4.1 When using EXPRESSBUILDER DVD

- 1. Log on to the system with the built-in administrator, which has administrative privileges.
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. Start the installer of Starter Pack according to the installation type.

Full installations

Click Integrated Installation on the menu.

| Autorun R | Menu | Version 7.00-000.00 (000) |
|-----------|-------------------------|---------------------------|
| | Instruction Manual | |
| Û | Versions | |
| Ŧ | Integrated Installation | \supset |
| | Applications | |
| k | Exit | |

When the following screen appears, make sure that the **Starter Pack** option is selected, and then click **Install**.

| - You cannot select a | pplications if your system have not installed Starter Pack. | |
|-----------------------|---|--|
| | n if you want to reinstall it. | |
| C Starter Pack | | |
| C Applications | | |
| IT NEC ESMPR | O Agent | |
| Express Rep | port Service | |
| Express Rep | port Service(HTTPS) | |
| III Universal R | AID Utility | |
| F Product Info | Collection Utility | |
| III ExpressUpd | late Agent | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Install Cancel | |

Tips

If Starter Pack is already installed, the **Applications** option is selected by default. To install Starter Pack again, select the **Starter Pack** option.

Server Core installations

(1) Enter the following command at the command prompt, and then specify the optical disk drive letter (for example, D drive).

```
cd /d D:\001\win\winnt\bin
```

C:\Users\administrator>cd /d D:\001\win\winnt\bin

(2) Enter the following, and then press <Enter> key.

pkgsetup.vbs

D:\001\win\winnt\bin>pkgsetup.vbs

Wait for several minutes without attempting any further operation until the following window appears. On Full Installation, the following progress message appears while the Starter Pack is installed.

| tarter Pack | |
|----------------------------------|--|
| Installing Starter Pack. | |
| Please wait for a while | |
| >> Copying Files. | |
| Checking the system information. | |
| Updating drivers. | |
| Performing the last process. | |

4. Read the message, and then click **OK**. Starter Pack installation starts.

| 2 | Setup is going to install Starter Pack. |
|---|---|
| | If you install it, dick [OK], |
| | If you wish to cancel it, click [Cancel]. |
| | |
| | This process disables Scalable Networking Pack(SNP) function. |
| | If you use SNP function, enable it after the reboot. |
| | |
| | |
| | OK Cancel |

Wait until installation completes (about 3 or 4 minutes).

On Full Installation, the following progress message appears while the Starter Pack is installed.

| tarter Pack | |
|-------------------------------------|--|
| Installing Starter Pack. | |
| Please wait for a while | |
| >> Copying Files. | |
| >> Checking the system information. | |
| Updating drivers. | |
| Performing the last process. | |

5. When the following message appears, Starter Pack installation is complete. Follow the instructions in the message, and remove EXPRESSBUILDER DVD.



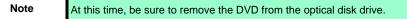
6. Click **OK** to restart the system.

Installation of Starter Pack is now complete.

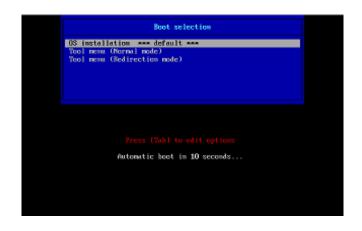
5.4.2 When using Internal Flash Memory

(Optional "Internal Flash Memory" is required)

- 1. After installing the operating system, restart the server.
- 2. When "Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network" appears during POST, press <F3> key.



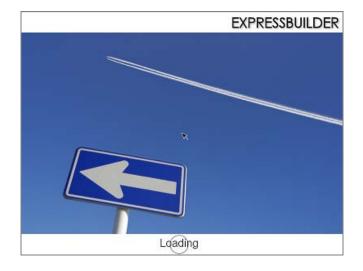
3. When the following message appears, select **OS installation** *** **default** ***. You will automatically advance to the next window, with no need for further input.



The following window appears



The server starts from EXPRESSBUILDER.



4. Select English on the language selection window, and then click OK.



5. Click Utilities.

| 5 | Setup | |
|---------|-------------------|---|
| 9 | Utilities | Ø |
| Move to | o Utilities Menu. | |
| ٢ | Exit | |

6. Click Starter Pack Installation.

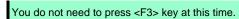
| Utilities (1/1) | |
|---|-----------|
| RAID Configuration | on Data |
| File Execution | |
| Starter Pack Insta | llation |
| Install Starter Pack to the installed Windows. | mory |
| | |
| | Utilities |

7. Read the contents, and then click Yes.

| Question | | | | - |
|----------|---|---------------------|---------------------|---|
| | Install Starter Pack into the Do you want to proceed ? | drive where Windows | has been installed. | |
| | bo you wait to proceed : | [Me | ssage ID : P2000] | |
| 0 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | - |

8. When files are copied, click **Close** on the following screen.

| | ion |
|---|--|
| | Starter Pack has been copied. |
| | Click Close to restart the computer. |
| | To install Starter Pack, run the following bat file in Virtual Flash |
| | Memory after logging on the Windows. [VIRTUAL_DRV]:\app_pkg.bat |
| 0 | |
| | [Message ID : P1000] |
| | |
| | |
| | |
| | |
| | Close |
| | Utillitie |



- 9. Proceed application step according to the installation type.
 - **Tips** During setup, a virtual floppy disk drive is temporarily connected. Follow the instructions below to reference the virtual floppy disk drive.

Full installations

Click app_pkg.bat of Floppy disk drive (usually drive A).

Server Core installations

 Enter the following command at the command prompt, and then specify the drive letter of Floppy disk drive (usually drive A).

```
Cd /d A:\
```

C:\Users\administrator>cd /d A:\

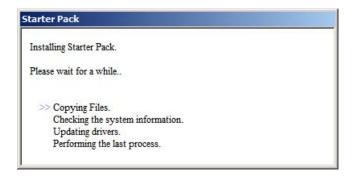
(2) Enter the following, and then press <Enter> key.

app_pkg.bat



Wait until the file copy is complete. (About 1 to 3 minutes.)

On Full Installation, the following progress message appears while the Starter Pack is installed.

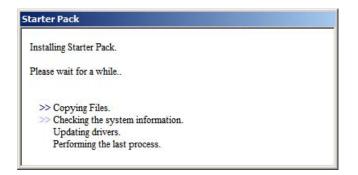


10. Read the message, and then click **OK**. Starter Pack installation starts.

| arter P | ack | x |
|---------|---|---|
| ? | Setup is going to install Starter Pack. If you install it, dick [OK], If you wish to cancel it, dick [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot. | |
| | OK Cancel | 1 |

Wait until the installation of the Starter Pack is complete. (About 3 to 5 minutes)

On Full Installation, the following progress message appears while the Starter Pack is installed.



11. Click **OK** to restart the system.



Installation of Starter Pack is now complete.

5.5 Setting Up Device Drivers

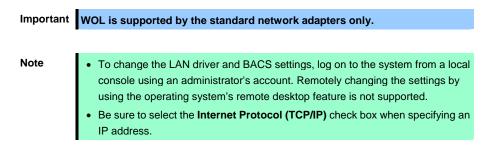
Install and set up device drivers provided for the standard configuration.

For details regarding the installation and setup of a driver that is not described here, refer to the manual supplied with the driver.

5.5.1 Installing the LAN drivers and BACS (teaming utility)

(1) LAN drivers and BACS

If EXPRESSBUILDER is used for setup, the LAN driver and BACS will automatically be installed. If the OS standard installer is used for setup, install Starter Pack to install the LAN driver and BACS.



(2) Optional LAN board

This server supports the following optional LAN boards.

The drivers for LAN boards are automatically installed using the OS plug-and-play function.

Optional LAN boards: N8104-128/132/133/138/145

Note: N8104-128 is supported by Express5800/R110f-1E only.

The drivers for LAN boards are automatically installed using the OS plug-and-play function.

The LAN driver is not installed if N8104-145 is not installed at the time of installation of the OS by using EXPRESSBUILDER or at installation of Starter Pack.

Perform the steps below to install the N8104-145 LAN driver manually.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.

If the Autorun Menu appears, close the menu.

Tips

EXPRESSBUILDER DVD is unnecessary if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

2. Open Command Prompt, and execute install.bat in the following folder.

When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\001\win\winnt\ws2008\lan\intel

If Starter Pack was installed from Internal Flash Memory:

System Drive:\StartPKG\ws2008\lan\intel

When the following message appears, remove the EXPRESSBUILDER DVD from the optical disk drive,

and then restart the system.

| Installation Completed | |
|------------------------|--|
|------------------------|--|

Setup is now completed.

Note
If the LAN driver has been installed in N8104-145, PROSet (Teaming utility) is also installed.
If an optional LAN board has been added, perform the procedure in "5.5.2 Setting up LAN drivers" for each optional LAN board.

(3) Network adapter name

After installing the LAN drivers, the following network adapter names will be displayed by the Device Manager or BACS.

Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:

[N8104-128] Broadcom BCM57711 NetXtreme II 10 GigE (NDIS VBD Client) #xx* [N8104-132/133/138] Broadcom NetXtreme Gigabit Ethernet #xx * [N8104-145] Intel(R) Ethernet Server Adapter I340-T2 #xx*

* If there are adapters with the same name, a different identification number will be assigned to xx.

Tips

The ID for N8104-128 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

5.5.2 Setting up LAN drivers

(1) Setting link speed

The transfer rate and duplex mode of the network adapter must be the same as those of the switching hub. Follow the procedure below to specify the transfer rate and duplex mode.

Tips

Using N8104-128 default speed duplex (10Gb Full), there is no problem using switch with "Autonegotiation" speed duplex.

- 1. Open the Device Manager.
- 2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to set. The properties of the network adapter will be displayed.
- On the Advanced or Link Speed tab, set the Speed & Duplex values to the same as those of the switching hub.
- 4. Click OK in the Network Adapter Properties dialog box.
- 5. Restart the system.

The link speed setting is now complete.

(2) Using N8104-128

Using N8104-128 with the server, iSCSI Offload Engine and EnablePMTUBHDetect must be disabled.

Follow the procedure below to set it.

- Double-click the Broadcom Control Suite icon on the Control Panel window. Broadcom Advanced Control Suite starts.
- Set Filter to ALL VIEW, select Broadcom BCM57711 NetXtreme II 10 GigE # xx under Explorer View the Adapter xx (BCM57711 A0) - Port x.
- 3. Tab on **Configurations** at the right side screen and then expand **Resource Reservations**.
- 4. Click the **Configure** button on the **Click the button to configure**. The Hardware and Resource Configuration Wizard appears.
- 5. Remove a checkmark from **iSCSI** under **Protocols**, if checked. Select **Next**, and then click the **Apply** button.
- 6. When the following message appears, select Yes.

Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards. Do you want to continue?

- 7. Complete steps 2 to 6 for each N8104-128 network adapter. Then, close the Broadcom Advanced Control Suite.
- 8. Insert EXPRESSBUILDER DVD into the optical disk drive. If the Autorun Menu appears, close the menu.



EXPRESSBUILDER DVD is unnecessary if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

- 9. Double-click bhddisabled.vbs in the following folder.
 - When using EXPRESSBUILDER DVD: EXPRESSBUILDER DVD:\001\win\winnt\ws2008\lan\bcom\ws2008x86\lan
 - If Starter Pack was installed from Internal Flash Memory: System drive:\StartPKG\ws2008\lan\bcom\ws2008x86\lan
- 10. When the following message appears, click OK.

Black Hole Router Detect Disable Completed, Reboot the system

11. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Setup is now complete.

(3) Using N8104-132/133/138

Using N8104-132/133/138 with the server, follow the procedure below to set it.

1. Insert EXPRESSBUILDER DVD into the optical disk drive. If the Autorun Menu appears, close the menu.

Tips

EXPRESSBUILDER DVD is unnecessary if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

- 2. Double-click to the following file.
 - When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\001\win\winnt\ws2008\lan\bcom\ws2008x86\lan\
pgdyavd_disable.vbs

If Starter Pack was installed from Internal Flash Memory:

System drive:\StartPKG\ws2008\lan\bcom\ws2008x86\lan\ pgdyavd_disable.vbs

3. When the following message appears, click OK.



Tips

The message "Action:Non" indicates that the LAN driver is already set.

4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Setup is now completed.

5.5.3 Setting up team/LiveLink (BACS)

Note

- For how to delete an adapter team, refer to Chapter 1 (5.5.3 Setting up team/LiveLink (BACS) (4) Procedure for deleting team).
 - Check the following points when deleting an adapter team.
 - When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
- If a team exists, delete the team first. If the team is bound to a Hyper-V virtual adapter, unbind the Hyper-V adapter before deleting the team.
- Be sure to specify the same Jumbo Mtu (Jumbo Packet) setting to all the adapters that compose a team.
- Do not configure the teams with adapters that use the iSCSI function.

(1) Team types

The following team types are supported.

- Smart Load Balancing and Failover (without Standby Member)
 - All adapters that compose the team perform communication.

If a communication failure occurs on an adapter, other adapters that compose the team continue the communication.

When the adapter on which the communication failure occurred recovers, it joins the team again and resumes the communication.

• Smart Load Balancing (Auto-Failback Disable) (with Standby Member)

Among the adapters that compose the team, primary adapters except the standby member perform communication.

If a communication failure occurs, the standby member continues the communication.

When the adapter on which the communication failure occurred recovers, it joints the team again and the standby adapter returns to the standby state.

• FEC/GEC Generic Trunking

The combination of multiple adapters into a single channel to provide greater bandwidth.

Important FEC/GEC mode requires switch support.

(2) LiveLink

LiveLink is a function that detects communication route failures of adapters. It periodically investigates the communication status of specified destinations (IP address).

Link packets are sent from each adapter within a team.

If a response to the transmission of a link packet within the specified range is not detected, it is identified as a communication route failure and adapter communication is stopped.

When a response to the submission of a link packet is detected, communication LiveLink identifies communication as having been recovered, and communication using that adapter automatically resumes.

| Important | Be sure to set up LiveLink when creating a team in the following cases. |
|-----------|---|
| | Smart Load Balancing and Failover (without Standby Member). |
| | Smart Load Balancing (Auto-Failback Disable) (with Standby Member) |
| | using more than two network adapters. |
| | When using Smart Load Balancing (Auto-Failback Disable) (with Standby |
| | Member) using two network adapters, setup for LiveLink is not essential. |

(3) Setting up team/LiveLink

| Important | Possible combinations of network adapters that compose the team are as follows. |
|-----------|---|
| | When the number of adapters that composes the team is up to four: |
| | Between standard network adapters |
| | Between LAN cards excluding N8104-128 |
| | A standard network adapter and LAN card N8104-128 |
| | When the number of adapters that composes the team is up to two: |
| | Between N8104-128 adapters. |
| | Teaming with another N8104-128 on different board is not supported. |
| | |
| Tips | To edit a team, right-click on the BACS team, and then select Edit Team . Then refer to step 3 and the subsequent steps to edit the team. |

- 1. Double-click the **Broadcom Control Suite** icon on the Control Panel window. Broadcom Advanced Control Suite starts.
- 2. Set **Filter** to **TEAM VIEW**, right-click the adapter to be used for the team, and then select **Create a Team** from the short-cut menu.

| Broadcom Advanced Control Suite 4 Eile View Action Filter Context Tools Teams (SOSI Help | | |
|---|--|------------------------------|
| | s 🔽 Driver Information | |
| Explorer View | Information Configurations Diagnostic | cs Statistics |
| 🖻 ass Hosts | Property | Value |
| | I= Vital Signs | 50E54986AD60 |
| Teams | Permanent MAC Address | 50E54986AD60 50E54986AD60 |
| 🖻 🔯 Unassigned Adapters | - IPv4 Address | 169.254.156.174 |
| [0007] Broadcom NetXtreme Girabit Ethernet | Offload Capabilities | LSO.CO |
| [0008] Broadcom Ne Create Team net #2 | MTU | 1500 |
| Manage Teams | Driver Information | 1000 C |
| <u>A</u> dd to a Team | - Driver Version | 15.0.0.9 |
| Create a <u>V</u> LAN | - Driver Date | 10/3/2011 |
| | - Driver Name | b57xp32.sys |
| | Driver Status | Loaded |
| | Vital Signs The Vital Signs section of the Information tat network adapters that are installed in your sy adapter and general network connectivity. | |
| | | |
| BROADCOM. | 4 | SAL-SH |

The Broadcom Teaming wizard appears.

3. Click Next.

| Broadcom Teaming Wizard | <u>? ×</u> |
|--|----------------|
| Velcome to the Broadcom Teaming Wizard | BROADCOM |
| he Broadcom Teaming Wizard will guide you through the process of creating and modifying teams and/or VLANs lick Next. To work without the wizard click Expert Mode. | . To continue, |
| Expert Mode | |
| lote: Current work in the Teaming Wizard will be lost when Expert Mode is clicked. | |
| o always start in Expert Mode, check the ""Default to Expert Mode on next start"" checkbox. | |
| Default to Expert Mode on next start | |
| Cancel < Back Next > | Preview 📊 |
| | |

Note

Do not use Expert Mode.

4. Enter any name into the team name entry column, and then click Next.

| iii Broadcom Teaming Wizard | <u>? ×</u> |
|--|--------------------|
| Creating/Modifying a Team: Team Name You must assign your team a unique name. | BROADCOM |
| | |
| Enter the name for the team: | |
| | |
| Team 1 | |
| A team name has a maximum length of 39 characters. The name can use any symboli کوته/۹۰۵۲ " | c character except |
| Cancel < Back Next > | Preview 🗾 |

5. Under Team Type, select the type of team you want to create, and then click Next.

| ii Broadcom Teaming Wizard | ? × |
|---|---------------------------------------|
| Creating/Modifying a Team: Team Type Select the type of team you want to create. | BROADCOM. |
| ← Team Type | |
| Smart Load Balancing(TM) and Failover (SLB) | |
| C 802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP) | |
| C FEC/GEC Generic Trunking | |
| Enable HyperV Mode TCP Offload Engine (TOE) support is supported only on a SLB team type. If a team ty connections will be offloaded. | pe other than SLB is selected, no TCP |
| Cancel < Back Next | Preview 💼 |

- Note
- 802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP) is not supported.
- When **FEC/GEC Generic Trunking** is selected, the following message will appear. Select **OK**.
- "Verify that the network switch connected to the team members is configured correctly for the team type."

6. Select the adapters that compose the team, click **Add** to add them to the **Team Members** area, and then click **Next**.

| Available Adapters | TOE | LSO | CO | RSS | samab | NDIS | MTU | |
|---|-----|------------|------------|-----------|--------------|-------------|-------------|--------|
| 008] Broadcom NetXtreme Gigabit Ethernet #2 | No | Yes | Yes | No | Yes | 5.1 | 1500 | |
| Add | | | | | | | | Remove |
| Add Team Members | TOE | LSO | C 0 | RSS | samab | NDIS | мти | Remove |
| <u>.</u> | TOE | LSO Yes | CO Yes | RSS No | 3amab Yes | NDIS 5.1 | MTU 1500 | Remove |

Note If FEC/GEC Generic Trunking is selected, go to step 15.

- 7. Proceed according to your desired team type.
 - Smart Load Balancing and Failover (without Standby Member)
 - (1) Select **Do not configure a standby member**.
 - (2) Click Next.

| <u>?</u> × |
|------------|
| BROADCOM. |
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| |
| <u>×</u> |
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- Smart Load Balancing (Auto-Failback Disable) (with Standby Member)
 - (1) Select Use the following member as a standby member.
 - (2) Select the adapter that is to be a standby member from the drop-down list.
 - (3) Select Enable Auto-Failback Disable mode.
 - (4) Click Next.

| Broadcom Teaming Wizard | <u>?</u> × |
|---|-------------|
| Creating/Modifying a Team: Designating a Standby Member Do you want to designate an available adapter as a standby member? | BROADCOM. |
| -Optionally select if you want a standby member for the team | |
| C Do not configure a standby member. | |
| • Use the following member as a standby member: 1 | |
| [0008] Broadcom NetXtreme Gigabit Ethernet #2 | E (2 |
| Enable Auto-Fallback Disable mode (3) | |
| | |
| | |
| | |
| | |
| Qancel < Back Next > | Preview |
| | |

Note

Enable Auto-Failback Disable mode is cleared while editing the team. Select it again.

- 8. When configuring LiveLink, select **Yes**, click **Next**, and then go to step 9.
- When configuring LiveLink is unnecessary, select No, click Next, and then go to step 15.

| reating/Modifying a Team: Configuring LiveLink p you want to configure LiveLink? | BROADCOM |
|---|-------------------------------------|
| Configure LiveLink? | |
| C Yes | |
| No | |
| | |
| LiveLink detects loss of network connectivity beyond the switch and routes that have a live link. | s traffic only through team members |

9. You can use the default setting for **Probe interval** and **Probe maximum retries**. If you change these values, select a value from each drop-down list, click the target probe (**Probe Target** *xx*), and then click **Edit Target IP Address**.

| robe Interval (seconds) | 2 | | |
|--|------------------------|------------|--|
| robe Maximum Retries | 5 | • | |
| robe VLAN ID (Optional: 0-4094) | 0 | | |
| Target | | IP Address | |
| Probe Target 1 Probe Target 2 Probe Target 3 | | | |
| Tobe Imgers | | | |
| | Edit Target IP Address | | |

| • The setting range of Probe interval (link packet transmission interval) is 1 to 60 (units: seconds). |
|---|
| • The setting range of Probe maximum retries (link packet retry count) is 1 to 10 (times). |
| Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum. If a link down is detected, failover occurs immediately after the link goes down. It takes the time specified for Probe interval (seconds) to recover from the link going down. |
| When using Tagged VLAN, input the VLAN ID for Probe VLAN ID. |

10. In the Target xx text box, enter the IP address of the alive monitoring server, and then click OK.

| IP Setting | |
|-----------------|--|
| Team Name | Team 1 |
| Target 1: | |
| Target 2: | li kasa 🛛 |
| Target 3: | |
| Target 4: | - <u> </u> |
| | |
| Please enter ei | ther an IPv4 or IPv6 address for the probe targets IP address field. |

Tips

- Note
- *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.
- If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified.

11. Click Next.

| Probe Interval (seconds) | 2 | <u>·</u> | |
|----------------------------------|-------|---------------------|----------|
| Probe Maximum Retries | 5 | | |
| Probe VLAN ID (Optional: 0-4094) | 0 | | |
| Target | 500 M | IP Address | ^ |
| Probe Target 1 Probe Target 2 | | | - |
| Probe Target 3 | | 3000000000 | <u>•</u> |
| | Ed | t Target IP Address | |

12. Select an adapter from the Team Members area, and then click Edit Member IP Address.

| | 1 | | ~~ |
|--|-------------------|--------------|----|
| Target Members | IPv4 Address | IPv6 Address | |
| 0007] Broadcom NetXtreme Gigabit Ethernet | | | |
| 0008] Broadcom NetXtreme Gigabit Ethernet #2 | | | |
| | | | |
| | | | |
| Edit | Member IP Address | | |
| | | | |
| | | | |
| | | | |
| | | | |

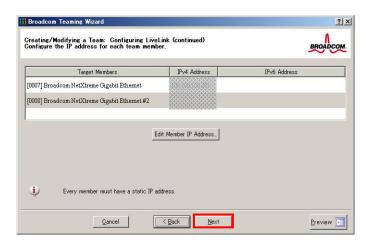
13. Enter the IP address used for LiveLink communication, and then click OK.

| Setting | |
|---------------|--|
| Name: | [0009] Broadcom BCM57810 NetXtreme II 10 GigE (NDIS VBD Client) #161 |
| IPv4 Address: | |
| IPv6 Address: | 200000000000000000 |

Note

- Be sure to specify an IP address for LiveLink communication for all the adapters that compose the team. The address specified here is the IP address for LiveLink communication. Specify a different IP address for data communication.
- For *Target xx*, specify an IP address that is unique on the network and with which communication is possible.

14. Click Next.



15. Make sure that **Skip manage VLAN** is selected under **Manage VLAN**, and then click **Next**. It is an example of if you do not want to use the VLAN.

| <u>?</u>] |
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| BROADCOM |
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16. Make sure that **Commit changes to system and Exit the wizard** is selected under **Commit changes**, and then click **Finish**.

| ollecting information. How would you like to roceed? | BROADC |
|--|---|
| Commit changes | |
| Commit changes to system and Exit the wizard C Save changes and continue to manage more teams | |
| | |
| | |
| | |
| | |
| | |
| | |
| Applying the changes will temporarily interrupt the network connection and the connection will resume atterwards. | n. The process may take several minutes |

Note

When the message below appears, select Yes.

"Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards. Do you want to continue?" Tips

After creating a team, if the teaming adapter displays like the following image, perform steps 8 to 14 again and correct the LiveLink settings.

When all network adapters that configure the team are in the link down status, this is indicated as shown in the window below. Check the LiveLink settings while all adapters are linked up.

| <u>File View</u> | | <u>C</u> ontext | lools | _eams | 15051 | Help | |
|------------------|-----|---|------------------------------------|------------------------|-----------|----------|----|
| Explorer View | | | | | | | ð |
| | Sta | 1 SP Victual Team 1 ([(mary Adapt [0007] Bro andby Adap [0008] Bro | 000] BA ers badcom N ters | NSP Virtu NetXtreme | e Gigabit | Ethernet | #2 |

- 17. Restart the system.
- After the system starts, start Broadcom Control Suite by clicking the Broadcom Control Suite icon in Control Panel, and confirm that a team has been created. Confirm the team settings on the Information window to the right.
 - Smart Load Balancing and Failover (without Standby Member)

| We hots Value Image: Second | plorer View É | Information Statistics | |
|---|---------------|---|------------------------|
| Team 1 Team | and Hosts | | Value |
| Image: Second Capabilities ISO. CO Image: Capabilities ISO. CO Image: Capabilities ISO. CO Image: Capabilities Image: Capabilities Image: Capabilities Image: Capabilitities <td>🖻 🎬 Teams</td> <td>- Team Name</td> <td></td> | 🖻 🎬 Teams | - Team Name | |
| | | - Team Offload Capabilities | LSO, CO |
| Experimental Control Cont | | Driver Name | Baspxp32.sys 6.3.31 |
| Team Properties | | Probe Interval Probe Max Retries | 2000 5 |
| Team Properties Displays information about the team. | | | 300100-00201 |
| | | Team Properties Displays information about the team. | |

- Smart Load Balancing (Auto-Failback Disable) (with Standby Member)

| xplorer View É | Information Statistics | | |
|--|---|-----------------------------|--|
| 😑 aaa Hosts | Property | Value | |
| 😑 🔝 261222-161-1 | 😑 Team Properties | | |
| E Teams | - Team Name | Team 1 | |
| 😑 👬 Team 1 | Team Type | SLB (Auto-Fallback Disable) | |
| | - Team Mode | Primary | |
| 🖹 🥟 BASP Virtual Adapters | - Team Offload Capabilities | LSO, CO | |
| - I (0020] BASP Virtual Adapter) | - Team MTU | 1500 | |
| E Frimary Adapters | - Driver Name | Baspxp32.sys | |
| [0007] Broadcom NetXtreme Gigabit Ethernet | - Driver Version | 6.3.31 | |
| | - Driver Date | 6/15/2011 | |
| 🖻 🣂 Standby Adapters | - Probe Interval | 2000 | |
| | Probe Max Retries | 5 | |
| | - Probe Vlan ID | 0 | |
| | - Team Probe Target 1 | 0000000000 | |
| | | | |
| | Team Properties Displays information about the team. | | |

- FEC/GEC Generic Trunking

| xplorer View | Information | |
|---|---|--|
| Hosts | Property Team Properties Team Name Team Name Team Type Team Offload Capabilities Team MTU Oriver Name Oriver Varison Driver Varison Driver Date | Value Team 1 FEC/GEC LSO, CO, RSS 1550 Baspays 15.3 12/19/2011 |
| | Team Properties Displays information about the team. | |

Team setup is now complete.

(4) Procedure for deleting team

Note

You must delete teams from Broadcom Control Suite. You cannot delete the team from the team adapter displayed in the Device Manager.

- 1. Double-click Broadcom Control Suite in the Control Panel window. Broadcom Advanced Control Suite starts.
- 2. Set **Filter** to **TEAM VIEW**, right-click the adapter to be used for the team, and then select **Delete Team** from the short-cut menu.

| xplorer View đ | 9 Information Statistics | |
|--|--|---|
| Hosts Teams Edit Team Edit Edit Team Edit Edit Team Edit Edit Team Edit Edit | Property Team Name Team Name Team Name Team Offload Capabilities Team MTU Driver Version Driver Version Probe Max Retries Probe Max Retries Probe Van ID Team Probe Target 1 | Value Team 1 Smart Load Balancing(TM) and Failover LSO, CO 1600 Basprop2 sys 6331 6/15/2011 2000 5 0 |

| Note | When the message below appears, select Yes . |
|------|--|
| | "The selected team will be deleted from system, do you want to |
| | proceed? |
| | NOTE: Applying the changes will temporarily interrupt the |
| | network connection. The process may take several |
| | minutes and the connection will resume afterwards." |

3. Insert EXPRESSBUILDER DVD into the optical disk drive. If the Autorun Menu appears, close the menu.

Tips

- You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.
- 4. Double-click addlvlanstats.vbs in the following folder.
 - When using EXPRESSBUILDER DVD: Optical disk drive:\001\winnt\ws2008\lan\bcom\ws2008x86\lan
 - If Starter Pack was installed from Internal Flash Memory:
 System drive:\StartPKG\ws2008\lan\bcom\ws2008x86\lan
- 5. When the following message appears, click **OK**.

| LegacyVlanStats | × |
|-----------------------------|----------------------|
| Registry Addition Completed | l, Reboot the system |
| | ОК |

6. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Team deletion is now complete.

5.5.4 Setting up team (PROSet)

(1) Team types

The following team types are supported.

- Adapter Fault Tolerance (AFT) is a feature that creates a group containing and automatically converts the process of the working adapter to the other adapter in the group when any trouble occurred on that adapter.
- Adaptive Load Balancing (ALB) is a feature that creates a group containing more than one adapter and enhances the throughput by operating packet transmission from the server by all the adapters. This feature includes AFT feature.
- Switch Fault Tolerance (SFT) is a feature that provides a failover relationship between two ports when each port is connected to a separate switch. 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.

- Static Link Aggregation (SLA) requires switch support.
 - The adapters specified as a group of Adaptive Load Balancing (ALB) can only be connected to the switching hub.
 - Confirm that the setting of the switching hub (L2) port matches the setting of the server network adapter teaming mode.
 - For how to delete an adapter team, refer to Chapter 1 (5.5.4 Setting up team (PROSet) (3) Procedure for deleting team).

Check the following points when deleting an adapter team.

- When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
- If a team exists, delete the team first. If the team is bound to a Hyper-V virtual adapter, unbind the Hyper-V adapter before deleting the team.

(2) Setting up team

| Important | Possible combinations of network adapters that compose the team are as |
|-----------|--|
| | follows. |
| | When the number of adapters that composes the team is up to four: |
| | - Between N8104-145 adapters |

- 1. Open the Device Manager.
- 2. Open Network adapters, and then the Intel(R) xxx properties.
- 3. On the **Teaming** tab, select the **Team this adapter with other adapters** check box. Click **New Team**.
- 4. Type the name of the team in Specify a name for the team, and then click Next.
- 5. Include the adapter to the team, and then click Next.
- 6. Select a team mode, and then click **Next**.

Tips

The following team types are supported.

- Adapter Fault Tolerance
- Adaptive Load Balancing
- Static Link Aggregation
- Switch Fault Tolerance
- 7. Click Finish.
- 8. Click **TEAM:** "*Team name*" from the Device Manager, and then **Network adapters** to modify the team.

On the Settings tab, click the Modify Team button.

9. Refer to the following procedure to set the team member adapter priority status.

Note

- Adapter priority config can be confirmed by the following procedure:
 - 1. Click **TEAM:** "*Team name*" from Device manager, and then open **Network** adapters.
 - 2. On the Settings tab, confirm the adapters in team list.

10. On the **Settings** tab, click **Test Switch**. Click **Run test** on the **Test Switch** screen. Test completes when a message indicating successful operation is displayed.

| Important | Even if the test result is correct, the message below may appear. |
|-----------|---|
| | Check the setting of the switching hub (L2) port. If no problem is found, |
| | ignore the message. |
| | "The switch is configured with aggregated ports, but the team type does not support port aggregation. The switch is configured with VLAN tagging, |
| | not support port aggregation. The switch is configured with VLAN tagging, |
| | but the team has no VLANs." |
| | "Reconfigure the switch for link aggregation, or disable VLAN tagging on |
| | the switch." |
| l | |

Note

Before running the test, confirm whether the adapter status is "Active" or "Standby" on the **Settings** tab. If any error is displayed, read the message and change the setting of the switching hub.

- 11. Confirm the result in **Test results**.
- 12. Restart the system.

(3) Procedure for deleting team

- 1. Open the Device Manager.
- 2. Click Network adapters, and then open TEAM: "Team name" properties.
- 3. Click the **Settings** tab.
- 4. Click the **Remove Team** button.
- 5. Click **Yes** to the message.
- 6. Confirm that the **TEAM:** "*Team name*" adapter does not exist in the **Network adapters** tree, and then restart the system.

5.5.5 Graphics accelerator driver

The graphics accelerator driver for standard configurations is installed when Starter Pack is installed from EXPRESSBUILDER.

If you completed setup with EXPRESSBUILDER, then the graphics accelerator driver has been automatically installed.

Tips

The graphics accelerator driver is only enabled in Full installations. Standard VGA is used in the case of Server Core installation.

To reinstall drivers separately, complete the following steps.

1. Insert EXPRESSBUILDER DVD into the optical disk drive. If Autorun Menu appears, close the menu.

Tips

You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.

- 2. From the Start menu, point to All programs, Accessories, and then select Explorer.
- 3. Double-click the install.bat icon in the following folder.

When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\001\win\winnt\ws2008\video

If Starter Pack was installed from Internal Flash Memory:

System drive:\StartPKG\ws2008\video

Continue installation according to the onscreen messages. You will be prompted to confirm the End User License Agreement during this process. Click the **ACCEPT** button to continue.

4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Graphic accelerator driver installation is now complete.

5.5.6 When using a SAS controller (N8103-142)

The driver for SAS controller N8103-142 is automatically installed by Windows Plug-and-Play.

5.5.7 When using a RAID Controller (N8103-160)

The driver for RAID Controller N8103-160 is automatically installed by Windows Plug-and-Play.

5.5.8 When using a Fibre Channel controller (N8190-153/154)

The driver for Fibre Channel controller N8190-153/154 is automatically installed by Windows Plug-and-Play.

5.6 Specifying PAE Option

If the server can mount a memory of more than 4 GB in a 32-bit system, specify the PAE option settings to use that memory.

Important The PAE option is not supported by Windows Server 2008 Standard.

For Windows Server 2008, the PAE option can be specified by using the Bcdedit.exe file. Follow the procedure below to specify the PAE option.

- 1. Select Run from the Start menu.
- 2. Enter cmd.exe in the Open text box, and then click OK to start the command prompt.
- 3. Execute the following command at the command prompt: bcdedit /set pae forceenable
- 4. Restart the system. The above setting is applied after restart.
- Execute the following command at the command prompt: bcdedit
 Make sure that pae ForceEnable is added to Windows Boot Loader.

Specification of the PAE option settings is now complete. For details about Bcdedit.exe, refer to the following:

Boot Configuration Data Editor Frequently Asked Questions

http://technet.microsoft.com/en-us/library/cc721886(WS.10).aspx

5.7 License Authentication

To use Windows Server 2008, confirm whether the license has been authenticated, and if it has not, perform the license authentication procedure.

The following describes the license authentication procedure.

(1) Full installations

 Select Run from the Start menu. Enter the following, and then press <Enter> key. slui

| 🖅 Run | | × |
|-------|---|---|
| | Type the name of a program, folder, document, or Internet resource, and Windows will open it for you. | |
| Open: | slui | |
| | 🕐 This task will be created with administrative privileges. | |
| | | |
| | OK Cancel <u>B</u> rowse | |
| | | |

If the following message appears, Windows has already been activated on your system. You do not need to complete this procedure. Click **Close** to exit.

| Windows Activation | |
|--|--------------------------|
| Windows Activation | |
| Activation was successful | |
| Activation helps verify that your copy of Windows is genuine. With a genuine copy of Windows Server®, you are eligible to receive all available updates and product support from Microsoft. Learn more online about the benefits of genuine Windows | genuine Microsoftware |
| Indie onnie about the Selection of Genuine Antidows | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | Clos |

2. For installation from Backup DVD-ROM, replace the product key.

When the following window appears, click Change product key.

| 🎋 Windows Activation | × |
|---|--------|
| 🕥 🎊 Windows Activation | |
| The Windows Server $\ensuremath{\mathbb{S}}$ Standard product key you typed is invalid for activation | |
| → Buy a new product key online | |
| Type a different product key | |
| → Contact Microsoft to help resolve this problem | |
| | |
| | |
| | |
| | |
| | |
| | 1 |
| | Cancel |

3. When the following window appears, enter the product key found on the COA label, and then click Next.

| Vindows Activation | > |
|---|-------|
| 💫 Windows Activation | |
| Change your product key for activation | |
| Changing your Windows Server® Standard product key requires you to activate Windows. Y must activate Windows to continue using all Windows features. | ou |
| You can find your product key sticker on your computer or on the installation disc holder ins the Windows package. | ide |
| Example Sticker: | |
| Product Key: | |
| | |
| | |
| | |
| Next Ca | incel |

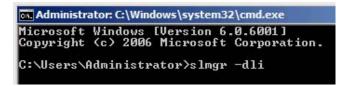
4. Follow the instructions in the following message to start the license authentication process.

| % Windows Activation | | | |
|---------------------------|---|-----------------|-------|
| Activate Windows now | | | |
| You must activate Window | s within 60 days to continue using all Wi | ndows features. | |
| Activate Windows onli | ne now | | |
| Ask me later | | | |
| Show me other ways to ac | tivate | | |
| | | | |
| What is activation? | | | |
| Read our privacy statemer | <u>it online</u> | | |
| | | | Cance |

Windows activation is now complete.

(2) Server Core installations

1. At the command prompt, enter the following, and then press <Enter> key. slmgr -dli



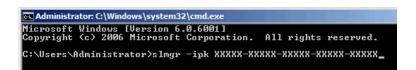
If the following message appears, Windows has already been activated on your system. You do not

need to complete this procedure. Click **OK** to finish.

| Windows Script Host | |
|---|-----|
| Name: Windows Server(R), ServerStandard edition Description: Windows Operating System - Windows Server(R), OEM_ channel Partial Product Key: | SLP |
| | ОК |

2. For installation from Backup DVD-ROM, replace the product key.

At the command prompt, enter the following, and then press <Enter> key. Set the product key found on the COA label in *PID*. slmgr -ipk *PID*



3. Obtain an installation ID for Windows activation.

At the command prompt, enter the following, and then press <Enter> key. slmgr -dti



- 4. Reference %systemroot%\system32\slui\phone.inf for the telephone number of the license authentication 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. Type the confirmation ID you received in step 5.

At the command prompt, enter the following, and then press <Enter> key. CID is the confirmation ID that you received from customer service.

slmgr -atp CID

| 🚾 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-xx | xxx-xxxxx-xxxxx-xxxxx_ |

Windows activation is now complete.

5.8 Applying Service Pack

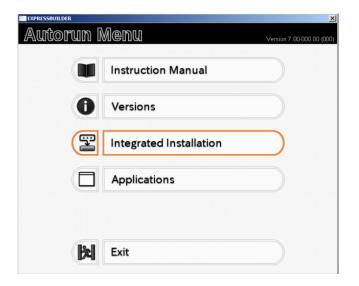
When applying Service Pack 2, refer to the following Microsoft website: <u>http://support.microsoft.com/kb/948465/en-us</u>

5.9 Installing the Applications

EXPRESSBUILDER contains applications including NEC ESMPRO Agent and NEC ESMPRO Manager. Some applications stored in EXPRESSBUILDER can be installed collectively by performing the procedures described below. When installing these applications individually, see *Chapter 2 (Installing Bundled Software)*. This feature is only available for Full installations.

- 1. Log on to the system with the built-in administrator, which has administrative privileges.
- 2. Insert the EXPRESSBUILDER DVD into the optical disk drive.

3. Click Integrated Installation on the menu.



4. On the following screen, make sure that the **Applications** option is selected.

Select the check boxes corresponding to the applications to install, and then click Install.

| You cannot select applications if your system have not installed Uninstall application if you want to reinstall it. | rter Pack. | |
|---|------------|--|
| C Starter Pack | | |
| Applications | | |
| P NEC ESMPRO Agent P Express Report Service Kxpress Report Service(HTTPS) Universal RAID Utility Product Info Collection Utility P collection Utility P ExpressUpdate Agent | | |
| | | |
| Install Cancel | | |
| Install Cancel | | |

- Applications available for installation are selected by default.
- An application that has been already installed need to be uninstalled before installing it again.
- If your system environment does not satisfy the prerequisite for an application, you cannot install it. (For details, refer to the on-screen information and the relevant page of each application.)

The selected applications are automatically installed.

5. When a message appears, click **Restart**, and then remove the EXPRESSBUILDER disk from the optical disk drive.

Now installation of applications is completed.

5.10 Installation When Multiple Logical Drives Exist

Before starting installation, backup data for future use in case of data loss.

(1) Installation process

- Setup with EXPRESSBUILDER

Important Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally.

Refer to Chapter 1 (5.2 Setup with EXPRESSBUILDER), and proceed with setup.

In this case, EXPRESSBUILDER installs the Windows on the first detected hard disk drive or logical drive.

- Setup with Windows standard installer
 - 1. Refer to Chapter 1 (5.3 Setup with Windows Standard Installer), and start setup.
 - 2. When the following message appears, select the partition to which you want to set up the operating system.

Select the location to which Windows will be installed

The order and numbers of the disks displayed on the screen might not match the server's slot of the hard disk drives. Distinguish between the hard disk drives by viewing the hard disk drive capacity and partition size displayed on the screen, and then select a drive to install the Windows system.

Selecting an improper drive might cause an unintentional corruption of the existing data. Be careful when selecting a hard disk drive on which to install the system.

| Important | For details, refer to the following Microsoft website: |
|-----------|--|
| | http://support.microsoft.com/kb/937251/en-us |
| | • You cannot edit the drive letters for the system volume or boot volume |
| | after setup is complete. Make sure that the drive letters assigned in this |
| | window are correct, and then proceed with setup. |

3. Refer to Chapter 1 (5.3 Setup with Windows Standard Installer), and proceed to setup Windows with Windows standard installer and the instructions.

> Tips The drive letter might change after installation. If you want to change the drive letter, use the procedure shown in Changing drive letter assignments below.

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume. If you want to change them, re-install the Windows.

- 1. From the **Start** menu, right-click **Computer**, and then select **Management**. Next, launch Server Manager.
- 2. From the window on the left, select Storage and then Disk Management.
- 3. Right-click the volume whose drive letter you want to change, and then select **Change drive letter and path**.
- 4. Click Change.
- 5. Click Assign next drive letter, and then select the drive letter you want to assign.
- 6. Click OK.
- 7. When the following message appears, read the contents and then click **OK**.

Some programs are dependent on drive letters, and may not run properly. Continue?

8. Close the Server Manager.

6. Setup for Solving Problems

We recommend installing the following features for solving the server failure quickly.

6.1 Specifying Memory Dump Settings (Debug Information)

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

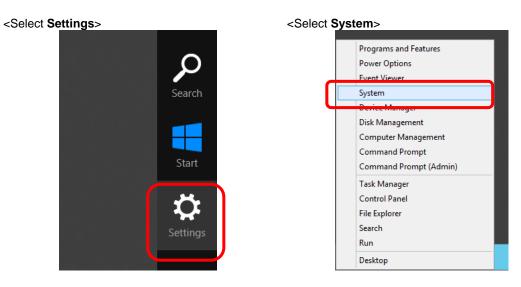
Important
Memory dumps must be collected by a serviceman. You only specify the settings for the memory dump.
When you restart the system to save the memory dump, a message informing you that the system is short of virtual memory might appear. Ignore this message and proceed with the restart. If you rest or restart the system again, the memory dump might not be saved normally.

6.1.1 For Windows Server 2012

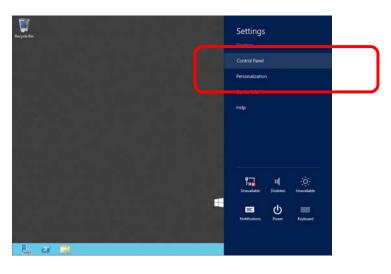
Follow the procedure below to specify the memory dump settings.

1. On the Charms bar, click **Settings**.

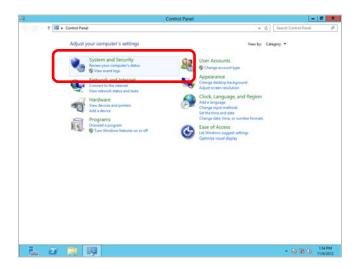
To go to step 5 directly, right-click the left bottom of the screen, and then click System.



2. In Settings, click Control Panel.



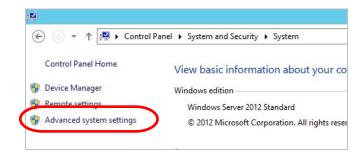
3. In Control Panel, click System and Security.



4. In System and Security, click System.

| | | System and Security | - | . Ø X |
|--|------------|---|----------------------|---------|
| 🖻 🕕 • 🕆 💽 • Control | Panel + Sy | stem and Security + C | Search Control Panel | ,p |
| Control Panel Home System and Security Network and Internet Hardware Programs User Accounts Appearance | * | Action Center Reversion computer is status and resolver issues: | ٦ | |
| Clock, Language, and Region Ease of Access | 147 | Turn automatic updating on or sff Check for updates Install optional updates. View update his | | |
| | 1 | Turn automatic updating on priort Check for updates (Install optional updates) View update has Power Options Require a password when the computer walks () Orange what the power buttoes do () Orange when the computer likego | | |
| | | Administratives Tools Delayenes and administratives in ∰ Create and tomat hard data partitions in ∰ View event log ∰ Schedult tools in ∰ Greeners a system health region | | |
| | | | | |
| | | | 18 18 16 | 1:55 PM |

5. In System, click Advanced system setting. The System Properties dialog box appears.



6. In Startup and Recovery, click Settings....

| System Properties |
|--|
| Computer Name Hardware Advanced Remote |
| You must be logged on as an Administrator to make most of these changes. |
| Visual effects, processor scheduling, memory usage, and virtual memory |
| <u>S</u> ettings |
| User Profiles |
| Desktop settings related to your sign-in |
| S <u>e</u> ttings |
| Startup and Recovery |
| System startup, system failure, and debugging information |
| Settings |
| Enviro <u>n</u> ment Variables |
| OK Cancel Apply |

7. Type a file name to save the debug information, and then click OK.

| Default operating system: | | |
|---|------|--------------------|
| Windows Server 2012 | | ~ |
| ✓ Time to display list of operating systems: ☐ Time to display recovery options when needed: | 30 🗘 | seconds seconds |
| System failure Write an event to the system log Automatically restart Write debugging information | | |
| Kernel memory dump 🗸 🗸 | | |
| Dump file: D: MEMORY.DMP |] | |
| Overwrite any existing file | | |

Fig. For example: <Save information in drive D: with the file name "MEMORY.DMP">

Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump of Write debugging information.
- Specify a drive that has a free space of at least "the memory capacity mounted on the server + 400 MB".
- The size of the debug information (memory dump) changes if DIMM is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

8. In **Performance**, click **Settings**. The **Performance Options** window appears.

| System Properties X |
|--|
| Computer Name Hardware Advanced Remote |
| You must be logged on as an Administrator to make most of these changes. |
| Performance |
| Visual effects, processor scheduling, memory usage, and virtual memory |
| Settings |
| User Profiles |
| Desktop settings related to your sign-in |
| S <u>e</u> ttings |
| Startup and Recovery |
| System startup, system failure, and debugging information |
| Seţtings |
| Enviro <u>n</u> ment Variables |
| OK Cancel Apply |

9. Click the Advanced tab on the Performance Options window.

| Performance Options | x |
|--|----|
| Visual Effects Advanced Data Execution Prevention | |
| Select the settings you want to use for the appearance and performance of Windows on this computer. | |
| • Let Windows choose what's best for my computer | |
| Adjust for <u>b</u> est appearance | |
| Adjust for best performance | |
| O <u>C</u> ustom: | |
| Animate controls and elements inside windows | ٦I |
| Animate windows when minimizing and maximizing | |
| Animations in the taskbar | |
| Enable Peek | |
| Fade or slide menus into view | |
| Fade or slide ToolTips into view | |
| Fade out menu items after clicking | |
| Save taskbar thumbnail previews | |
| Show shadows under mouse pointer | |
| Show shadows under windows | |
| Show thumbnails instead of icons | |
| Show translucent selection rectangle | |
| Show window contents while dragging | |
| Slide open combo boxes | |
| Smooth edges of screen fonts | |
| Smooth-scroll list boxes | |
| Use drop shadows for icon labels on the desktop | |
| | |
| | |
| OK Cancel Apply | - |

10. In Virtual memory, click Change....

| Processor scheduling Choose how to allocate processor resources. Adjust for best performance of: Programs Background services Virtual memory A paging file is an area on the hard disk that Windows uses a if it were RAM. Total paging file size for all drives: 4096 MB | | A discovered | |
|---|-----------------------------|----------------------|---------------------------------------|
| Choose how to allocate processor resources. Adjust for best performance of: Programs Background gervices Virtual memory A paging file is an area on the hard disk that Windows uses a fit were RAM. Total paging file size for all drives: 4096 MB Change | sual Effects | Advanced | Data Execution Prevention |
| Adjust for best performance of: Programs Background services Virtual memory A paging file is an area on the hard disk that Windows uses a fit were RAM. Total paging file size for all drives: 4096 MB Change | Processor s | scheduling | |
| Programs Background services Virtual memory A paging file is an area on the hard disk that Windows uses a if it were RAM. Total paging file size for all drives: 4096 MB Change | Choose ho | w to allocate | processor resources. |
| Virtual memory A paging file is an area on the hard disk that Windows uses a fit were RAM. Total paging file size for all drives: 4096 MB Change | Adjust for | best perform | ance of: |
| A paging file is an area on the hard disk that Windows uses a if it were RAM. Total paging file size for all drives: 4096 MB | O <u>P</u> rogram | ns | Background services |
| if it were RAM. Total paging file size for all drives: 4096 MB Change | Virtual mem | nory | |
| Change | A paging fi if it were R | le is an area AM. | on the hard disk that Windows uses as |
| | Total pagin | ig file size for | r all drives: 4096 MB |
| | | | Change |
| Of | | | |
| Of | | | |
| OK Capel | | | |
| OK Copyed | | | |
| OK Coord | | | |
| OK Copyel | | | |
| OK Coord | | | |
| OK Coord | | | |
| OK Concel An | | | |
| UN Cancel AD | | | |

11. Clear the Automatically manage paging file size for all drivers check box, and then click Custom size.

| Virtual Memory | x |
|---|---|
| Automatically manage paging file size for all drives | |
| Paging hie size for each drive Drive [Volume Label] Paging File Size (MB) C: System managed | |
| Selected drive: C: Space ovailable: Oustom size: Jaitial size (MB): Maximum size (MB): System managed size No paging file Set | |
| Total paging file size for all drives Minimum allowed: 16 MB Recommended: 3559 MB Currently allocated: 4096 MB | |
| OK Cance | I |

12. In **Paging file size for each drive**, enter the value equal or larger than the recommended value for **Initial size**, and the value larger than **Initial size** for **Maximum size**, and then click **Set**.

| Virtual Memory | x |
|---|---|
| Automatically manage paging file size for all drives Paging file size for each drive Drive [Volume Label] Paging File Size (MB) C: System managed | |
| Selected drive: C: Space available: 38852 MB Constant Size (MB): 3559 Maximum size (MB): 7118 System managed size No paging file Set | |
| Total paging file size for all drives Minimum allowed: 16 MB Recommended: 3559 MB Currently allocated: 4096 MB OK Cancel | |

Note the following when specifying a paging file size:

- The paging file is used to collect debug information (dump file). The boot volume must have a paging file of its initial size (Total capacity of physical memory mounted + 400MB or larger) is enough to store the dump file. If the paging file size is insufficient, correct debug information cannot be collected due to a shortage of virtual memory. Make sure to set a sufficient paging file size (recommended size: Total capacity of physical memory mounted * 1.5 or more).
- See "System Partition" in Chapter 1 (3.1 Before Starting Setup) for recommended value.
- When DIMM is added, re-specify the paging file according to the increased memory size.

13. Click OK.

If a message to restart Windows appears, restart the system according to on-screen message.

Specification of the memory dump settings is now complete.

6.1.2 For Windows Server 2008 R2

Follow the procedure below to specify the memory dump settings.

1. On the **Start** menu, click **Control Panel**. The Control Panel window appears.

Tips

2. On the Control Panel window, click System and Security.

If View by is not Category, select System from Control Panel directly.

- 3. Click System.
- Click Advanced system settings. The System Properties dialog box appears.
- 5. Click the Advanced tab, and then click Settings in Startup and Recovery.
- 6. Type a file name to store the debug information in the **Dump file** text box.

For example: To store the debug information in D drive under the file name MEMORY.DMP: D:\MEMORY.DMP

Note the following when specifying a dump file.

- For the Write debugging information drop-down list, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
- Specify a drive that has a free space of at least "the memory capacity mounted on the server + 300 MB".
- The size of the debug information (memory dump) changes when DIMM is added. Make sure that the free space of the drive to store the debug information is sufficient. If the mounted memory exceeds 2GB, specify Kernel memory dump.
- 7. In Performance, click Settings.

The Performance Options dialog box appears.

- 8. Click the Advanced tab in the Performance Options dialog box.
- 9. In Virtual memory, click Change.
- 10. Clear the **Automatically manage paging file size for all drives** check box, and then click **Custom size**.
- 11. In Paging file size for each drive, specify as follows:

For the **Initial size** text box, type a value equal to or greater than the **Recommended** value shown in **Total paging file size for all drives**.

For the **Maximum size** text box, type a value equal to or greater than the value specified in **Initial size**.

After specifying the above values, click Set.

Note the following when specifying a paging file size.

- The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the Windows partition paging file must be large enough to store dump files. Make sure to set a sufficient paging file size. If the paging file size is insufficient, correct debug information cannot be collected due to a shortage of virtual memory.
- For details about the Recommended value in the Total paging file size for all drives area, see System partition size in Before Starting Setup.
- When DIMM is added, re-specify the paging file according to the increased memory size.

12. Click OK.

The message to restart the system appears depending on the modifications made. In this case, restart the system.

Specification of the memory dump settings is now complete.

6.1.3 For Windows Server 2008 (32-bit)

Follow the procedure below to specify the memory dump settings.

- 1. On the **Start** menu, click **Control Panel**, and then click **System**. The System dialog box appears.
- 2. Click Advanced system settings. The System Properties dialog box appears.
- 3. On the Advanced tab, click Settings in Startup and Recovery.
- 4. Type a file name to store the debug information in the **Dump file** text box.

For example: To store the debug information in D drive under the file name MEMORY.DMP: D:\MEMORY.DMP

Note the following when specifying a dump file.

- For the Write debugging information drop-down list, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
- Specify a drive that has a free space of at least "the memory capacity mounted on the server + 300 MB" (or 2048 MB + 300 MB if the memory size exceeds 2 GB).
- The size of the debug information (memory dump) changes when DIMM is added. Make sure that the free space of the drive to store the debug information is sufficient. If the mounted memory exceeds 2GB, specify Kernel memory dump.
- In Performance, click Settings. The Performance Options dialog box appears.
- 6. On the **Performance Options** dialog box, click the **Advanced** tab.
- 7. In Virtual memory, click Change.
- 8. Clear the Automatically manage paging file size for all drives check box, and then click Custom size.
- 9. In Paging file size for each drive, specify as follows:

For the **Initial size** text box, type a value equal to or greater than the **Recommended** value shown in **Total paging file size for all drives**.

For the Maximum size text box, type a value equal to or greater than the value specified in Initial size.

After specifying the above values, click Set.

Note the following when specifying a paging file size.

- The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the boot volume paging file must be large enough to store dump files. Make sure to set a sufficient paging file size. If the paging file size is insufficient, correct debug information cannot be collected due to a shortage of virtual memory.
- For details about the Recommended value in the Total paging file size for all drives area, see System partition size in Before Starting Setup.
- When DIMM is added, re-specify the paging file according to the increased memory size.

10. Click OK.

The message to restart the system appears depending on the modifications made. In this case, restart the system.

Specification of the memory dump settings is now complete.

6.2 How to Create a User-mode Process Dump File

The user-mode process dump file records information when an application error occurs.

If an application error occurs, get user-mode process dump information using the following procedures without closing the pop-up window that reported the error:

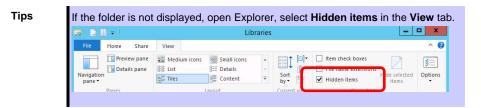
6.2.1 For Windows Server 2012

- 1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.
- 2. Click More details.

| ٥ | ₽ | Task Manager | - | | x |
|---|------------------------|---------------------------|---|--------|----|
| | | There are no running apps | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | ✓ More <u>d</u> etails |) | | End ta | sk |
| | | | | | |

- 3. Click the Processes tab.
- 4. Right-click the name of the process that you want to get dump information for, and then click **Create Dump File**.
- 5. A dump file for the process is created in the following folder:

C:\Users\user name\AppData\Local\Temp



Once the user-mode process dump file has been created, get the file from the folder shown in step 5.

6.2.2 For Windows Server 2008 R2 and Windows Server 2008

- 1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.
- 2. Click the **Processes** tab.
- 3. Right-click the name of the process that you want to get dump information for, and then click **Create Dump File**.
- A dump file for the process is created in the following folder: C:\Users\user name\AppData\Local\Temp

Tips

| lt | f the folder is not displayed, perform the following: |
|----|---|
| • | For Windows Server 2008 R2: |
| | Open Explorer, click Organize and then Folder and search options. Click the |
| | View tab and then select Show hidden files, folders, and drives. |
| • | For Windows Server 2008: |
| | Open Explorer, click Folder and search options on the Tools menu. Click the |
| | View tab and then select Show hidden files and folders. |

Once the user-mode process dump file has been created, get the file from the folder shown in step 4.

For details about how to create a user-mode process dump file, refer to the following Microsoft Support web page:

How to create a user-mode process dump file in Windows Server 2008 <u>http://support.microsoft.com/kb/949180/en-us</u>

User-mode process dump file creation is now complete.

6.3 Installing Network Monitor

Utilizing Network Monitor helps you investigate and manage network troubles.

(This feature is not supported in Windows Server 2012 or later operating systems.)

(1) Setting up Network Monitor

Windows Server 2008 R2 and Windows Server 2008 do not provide Network Monitor.To capture network traces on Windows Server 2008 R2 or Windows Server 2008, Microsoft Network Monitor must be installed using the procedure described below.

- 1. Download Network Monitor from the following Microsoft web page: http://support.microsoft.com/kb/933741/en-us
- Run the downloaded file to start the installer.
 Follow the onscreen instructions to install Network Monitor.

Tips

Tips

If the Security Alert message appears, click **Run**. In the setup format selection window, select **Complete**.

Network Monitor installation is now complete.

Tips

To uninstall Network Monitor, use Programs and Features.

(2) Capturing network traces

- 1. On the Start menu, click Microsoft Network Monitor to start Network Monitor.
- 2. Click **Create a new capture tab** on the **Start Page** tab or click **New** on the **File** menu, and then click **Capture**. A new tab for capturing network traces is created.
- 3. In Select Networks, select the network whose traces are to be captured.
- 4. On the **Capture** menu, click **Start** to start capturing the network traces.
- 5. On the Capture menu, click Stop to stop capturing the network traces.
- On the File menu, click Save As.
 The Save As dialog box appears. In Frame selection, click All captured frames, and then type a folder and file names.

Tips

The default folder is as follows:

C:\Users\<User name>\Documents\Network Monitor 3\Captures

7. Click Save.

The network trace file is created in the folder specified in step 6.

The setup for capturing network traces is now complete.

7. Windows OS Parameter File

This section describes a parameter file for Windows OS.

7.1 Creating Windows OS Parameter File

If a parameter file is used when performing Setup with EXPRESSBUILDER, a series of setup procedures from installing of the OS to installing several utilities can be executed automatically just by pressing keys for confirmation.

The settings from the previous installation can also be used when re-installing the system.

It is therefore recommended to use a parameter file to set up the server.

7.1.1 How to create a parameter file

This section describes how to specify the setup information necessary for OS installation and how to create a parameter file.

Follow the procedure described below.

| Important | Do not remove EXPRESSBUILDER DVD from the drive while creating a parameter file. |
|-----------|--|
| Tips | You can create a parameter file on Internet Explorer 7 or later. |

- 1. Start Windows.
- 2. Insert the supplied EXPRESSBUILDER DVD into the optical disk drive.
- 3. Click Applications.

| Autorun R | <i>Menu</i> | ⊻ Version 7.10-001.01 (001) |
|-----------|-------------------------|--------------------------------|
| | Instruction Manual | |
| 0 | Versions | |
| P | Integrated Installation | |
| | Applications | |
| | | |
| | Exit | |

4. Click Create a parameter file for Windows OS.

| Autorun I | Vienu | | ⊻ Version 7.40-001.01 (001) |
|-----------|------------|--|--------------------------------|
| | Instructio | on Manual | |
| i | Versions | | |
| F | Integrate | d Installation | |
| | Applicatio | ONS Create a parameter file for Windd | wws.OS |
| | L | ESMPRO Product Info Collection Utility BMC Configuration | |
| | | Universal RAID Utility | |
| K | Exit | | |

The following window appears.



5. On the **OS selection** menu, select the OS to install or specify the parameter file.
□ When not using parameter file : Go to Step 6.
□ When using a parameter file : Go to Step 7.

6. Click Manual Selection.

| 🜃 Create a parameter file fo | 11 | 2 Settings | 3 Confirmatio | × |
|------------------------------|-------------------------------------|--------------------|--------------------|-----------|
| | OS selection | Settings | Confirmatio | n |
| | Select an o | perating sys | tem to instal | I |
| | (Click Manual Se | election to config | ure a RAID array o | only) |
| | Manua | I Selection | [| \supset |
| | Choose an operating sy manually. | ystern 5 | | 5 |
| | | | | |
| _ | | | | = _ = |
| | | | | Setup |

From the **Windows** list, select **OS**, and then click **OK**.

| | Ci seemas | | | |
|-----------------|--------------------|---------------------|-------------|--|
| Question | | | | |
| | Select an operatin | g system to install | | |
| | @ Windows | Windows Se | rver 2012 • | |
| | C RAID Configu | ration Only | | |
| 8 | | | | |
| | | | | |
| | | | | |
| | OK | Can | la | |
| | | | | |

Click \bigcirc on the right side of the screen. \rightarrow Go to step 8.

| | elect an operating system to install. |
|---|---------------------------------------|
| Image: Contract of the second seco | Manual Selection |
| Ð | Load Settings |

7. When *using* the parameter file, click Load Settings.

| Create a parameter file for Windo | ws 05 | | | × |
|-----------------------------------|-------------------------|---------------|--|-----------|
| | 0S selection | 2 Settings | 3 Confirmation | |
| 1 | | | eem to install. Ire a RAID array only |) |
| E | Manual | Selection | | |
| C | Load Se | ettings | | \supset |
| La | ed instellation setting | 3. | | |
| | | | | Setup |

Follow the on-screen instruction to load the parameter file (*.tre).

| | uments | - + E I | |
|---------------------|-------------|------------------|--------|
| Name 🔺 | No items ma | Date modified | + Type |
| | No items ma | tch your search. | |
| | | | |
| | | | |
| | | | |
| | | | |
| • | | | |
| ∢ File name: Ite | 1 | | Open |

Click \bigcirc on the right side of the screen.

| | ľ | 1 DS selection | 2 Settings | 3 Confirmation | |
|---|---|-------------------|---------------|---|-------|
| | 1 | DS selection | Settings | Confirmation | |
| | 6 | | | | |
| 1 | | | | tem to install. ure a RAID array onl | |
| | | | | | _ |
| | | Manua | I Selection | | C |
| ~ | | Load S | ettings | | |

 \rightarrow Go to step 9.

8. Specify the setup parameters by using either of the following methods:

| | I | 1 OS selection | 2 Settings | 3 Confirmation | | |
|---|-----|-------------------|---------------|-------------------|-----------|--|
| | 2 " | iter install | ation setting | gs. | | |
| C | 0 | Default | : | | \supset | |
| | - | Custom | | | | |

Use Default:

(1) Click Default.

| Create a parameter | file for Windows 05 | |
|--------------------|--|-------------------|
| | 1 Settings | 3 Confirmation |
| | Enter installation settings. | |
| \bigcirc | Default | |
| | Specify minimum settings for the installation. Default values are used for other settings. | |
| | | Setup |

(2) Select an edition of the OS in the **Edition** list. Type the password, and then click **Finish**.

| | num settings to se use the Windows | | | |
|----------------|---------------------------------------|-------------------|------------------|------------|
| Ir you want to | use the windows | standard installe | r, CIICK CUSTOM. | |
| - Basic Setti | 0.05 | | | |
| | g system | : Windows Se | erver 2012 | |
| Edition | | : Standard(G | GUI server) | |
| Languag | e | English 💌 | 1 | |
| Typing | Administrator Pas | sword | | |
| 100000 | histrator Password | | : | (Required) |
| Reent | ter Administrator I | Password | : | (Required) |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

(3) Click \bigcirc on the right side of the screen.

| Create a par | rameter file for Windows | 05 | | | | 2 |
|--------------|--------------------------|-------------------|----------------|-------------------|-----|------------|
| | I | 1 OS selection | 2 settings | 3 Confirmation | | |
| | 2 ▫ | nter instal | lation setting | gs. | | |
| \bigcirc | ~ 0 | Default | : | | | \bigcirc |
| | Ø | Custon | n | | | |
| | | | | | | |
| | | | | | Set | UP |

(4) Check the settings, and then click Save.Save the file according to the on-screen instructions.

| 1 OS selection | 2 Settings 3 Confirmation |
|-------------------------------|---------------------------------|
| Confirm instal | lation settings. |
| | ion settings are properly) |
| Target RAID Controller | : LSI Embedded MegaRAID |
| Array #1 : Initialized(Quick) | |
| RAID Level | : RAIDO |
| Physical Device | : SATA #00 2TB |
| Logical Drive#1 | : 1861GB |
| Logical Drive#2 | 1.000 |
| Unused Space | : OGB |
| Array ∉2 | |
| RAID Level | 1 *** |
| | |

 \rightarrow Go to step 10.

Use Custom:

(1) Click Custom.

| | 1 2 3 selection 2 3 Confirmation | |
|---|--|-----|
| | Enter installation settings. | |
| | 2 | |
|) | O Default | |
| 2 | Custom | |
| | Specify oil settings for the installation. | |
| | | |
| | Se | tup |

(2) Use this menu to configure the RAID system with the RAID controller detected automatically.



When using an onboard RAID controller (LSI Embedded MegaRAID):

This function does not support the creation of RAID10 by using the onboard RAID controller. Refer to *Chapter 2 (4. RAID System Configuration)* in *"Maintenance Guide"* when creating RAID10.

| 0 | | 10 | | |
|-----|--|----|---|-------------|
| G W | izard | | | |
| | all an operating system to the dr e RAID controller is not correct, | | | controller. |
| | Device Information | | | |
| | RAID Controller | : | | |
| | Number of Physical Devices | : | 8 | |
| | Summary of RAID | | | |
| 11 | Array #1 RAID1 (2disk) Logical Drive1 (204768) | | | • |
| [| AID Configuration R Skip a RAID Configuration | | | |
| | | | | 1 / 10 Page |
| | Next | | | Cancel |

When creating new logical drives

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives in accordance with the wizard.

Important If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.

When skipping the creation of new logical drives

Select the Skip a RAID Configuration check box, and then click Next.

(3) Check the settings specified for **Basic Settings**.

Modify the settings as needed, and then click Next.

| the second se | |
|---|---|
| select Use Windows st | ig the standard installer contained in the OS installation disc when you andard installer. Andard installer, and applications when clicking Install Windows using |
| Basic Settings Operating syste | m : Windows Server 2012 |
| | s standard installer EM drivers to removable media |
| - @ Install Windo | ws using EXPRESSBUILDER |
| Edition | : Standard(GUI server) |
| Language | : English • |
| Time zone | : (UTC-08:00) Pacific Time (US & Canada) |
| | 4 / 10 Page |

 Check the settings specified for Partition Settings. Modify the settings as needed, and then click Next.

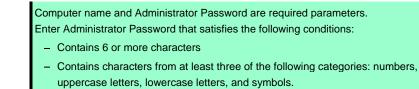
| 2 | 10 | 10 | 12 | |
|---|--------------------|-----------------|----------------------|-------------------------------|
| Wizard | | | | |
| Specify the system p Windows is installed within 2TB. The spa | into the first han | d disk drive or | | The partition size can be set |
| Create a new C Use all Size | | : [| 40 (GB) 2047 GB) | *1TB=1024GB |
| | | | | 5 / 10 Page |
| | | | | |
| Back | Next | | | Cancel |

| Important | Backing up user data, as needed, is recommended. |
|-----------|---|
| | Partition size |
| | Specify a partition size larger than the minimum required for installing the operating system. (Refer to Chapter 1 (Before Starting Setup).) |
| | the operating system. (Refer to Chapter 1 (Before Starting Setup).) |
| | The maximum partition size is 2,097,152 MB. |
| | The maximum partition size is 2,097,152 MB. If you select "Create a new partition" under "Partition Settings", the entire contents of the hard disk drive will be deleted. |
| | contents of the hard disk drive will be deleted. |
| | |

(5) Enter the user information, and then click **Next**.

| | 10 | | |
|--|-----|------------------------|-------------|
| Wizard | | | |
| Personalize the computer. Type Computer Name within 15 characte Administrator Password requires more from three of the following categories (| t | an 6 characters, and m | |
| | | | |
| Computer name | ÷ | C Auto | |
| | | 6-113-630484556 | (Required) |
| User name | ł | Administrator | |
| Administrator Password | : | | (Required) |
| Reenter Administrator Password | 1 : | | (Required) |
| | | | 6 / 10 Page |
| Back Next | | | Cancel |

| - NI | ~ *~ |
|------|-------------|
| 1.1 | ore |



- Tips
 The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name.
 If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Reenter Administrator password text boxes.
- (6) Check the settings specified for **Network Protocols**. Modify the settings as needed, and then click **Next**.

| Wizard | |
|--|--|
| Choose a network protocol. If you want to type an IP address, ch | noose Custom Settings, click Advanced. |
| Network protocols G Standard settings C Custom settings Standard adapter - Internet | Protocol (IPv4) |
| | 7 / 10 Page |
| Back Next | Cancel |

- Tips The order of entry in **Custom settings** may differ from the numbering of LAN ports.
- (7) Specify the domain or workgroup.Check the settings, modify them as needed, and then click **Next**.

| Join this computer to a domain Choose Workgroup or Domain | or a workgroup. , and then enter parameters. | |
|--|---|-------------|
| - 🦷 Join a workgroup | | |
| Workgroup name | : WORKGROUP | |
| C Join a domain | | |
| Domain name | : | |
| Account name | : | |
| Password | : | |
| Reenter password | * | |
| | | 8 / 10 Page |

(8) Check the settings of Windows components. Modify the settings as needed, and then click Next.

| Wizard Choose Windows components you wan | t to install. |
|---|-----------------------------|
| | |
| | |
| Server roles | |
| Web server(IIS) | Print and Document services |
| T DHCP server | File services |
| DNS server | Hyper-V |
| Windows features | |
| R SNMP service | Arhumond |
| Simple TCP/IP services | |
| WINS server | |
| | |
| | |
| | 9 / 10 Page |
| | |

(9) Check the settings of applications. Modify the settings as needed, and then click **Finish**.

| 2 | 10 | 15 |
|--|----------------------------|---|
| Wizard | | |
| Choose applications you want to ine For details about each application, | stall. see Description. | |
| List of applications | | Selected applications |
| | | NEC ESMPRO Agent |
| | Add >> | Express Report Service Express Report Service(HTTPS) |
| | << Delete | Universal RAID Utility |
| | CC Delete | Microsoft .NET Framework Version 3.5.1 ExpressUpdate Agent |
| | | |
| Description | | |
| | | |
| | | |
| | | 10 / 10 Page |
| | | |
| Back Finish | | Cancel |

On the following screen, click \bigcirc on the right side of the screen.

| | meter file for Windows 0 | | | | 2 |
|---|--------------------------|-------------------|---------------|-------------------|------------|
| | | 1 OS selection | 2 Settings | 3 Confirmation | |
| | | | | | |
| | 2 | ter install | ation setting | gs. | |
| С | 0 | Default | 8 | | \bigcirc |
| | 10 ~ | Custom | 1 | | |

Check the settings, and then click Save.
 Save the file according to the on-screen instructions.

| r file for Windows | |
|---------------------------------|------------------------------|
| 1 OS selection | 2 3 Confirmation |
| OS selection 5 | Confirmation |
| | |
| | |
| Canfirma installar | |
| Confirm installa | tion settings. |
| K Charle if valid installat | ion settings are specified) |
| Check if valid installat | ion settings are specified) |
| | 7 |
| Target RAID Controller | : LSI MegaRAID SAS 9270CV-8I |
| Array #1 : Initialized(Quick) | |
| RAID Level | : RAID1 |
| Physical Drive | : Slot #00 |
| Markey Second St. | Slot #01 |
| Logical Drive#1 | : 2047GB |
| | |
| Logical Drive#2 | 1 |
| Logical Drive#2 Unused Space | : : 0GB |
| Unused Space | |
| | : 0GB |
| Unused Space | : 0GB |
| Unused Space | : 0GB |
| Unused Space | : 0GB |

10. Click OK.

| | 1 Cos selection | 2 Settings | 3 Confirmation |
|-------------|--------------------|---------------|------------------------|
| 0 In | formation | | |
| | Saving the file | is complete. | [Message ID : D1000] |
| | 8 | | |
| | | | |
| | | OK | 1 |
| 10 | | | Sett |

11. When the following message appears, click **Yes** to complete parameter file creation.

| | 1 CS-selection | 2 Semingr | 3 Confirmation | |
|---------|-----------------------|-------------------|---|-------|
| Questio | n | | | |
| | Do you want to OS? | stop creating a p | arameter file for Windows [Message ID : D2000] | |
| 0 | | | | |
| | | | | |
| | | Yes | No | - |
| | | Yes | No | 25720 |

Parameter file creation is now complete.



NEC Express5800 Series Express5800/T110f-S, R110f-1E, T110f-E

Installing Bundled Software

This chapter explains the bundled software and how to install them.

- 1. Bundled Software for the Server Describes the bundled software to be installed in the server.
- Bundled Software for "PC for Management" Describes the bundled software to be installed in "PC for Management" that is used to monitor and manage the server.

I. Bundled Software for the Server

This section explains the software bundled in the server.

I.I NEC ESMPRO Agent (for Windows)

NEC ESMPRO Agent (for Windows) is an application used to monitor the server.

You can install it automatically when Windows OS is installed by using EXPRESSBUILDER.

When installing NEC ESMPRO Agent (for Windows) individually, see NEC ESMPRO Agent Installation Guide (Windows) in EXPRESSBUILDER.

1.2 NEC ESMPRO Agent Extension

You can manage the server remotely by using NEC ESMPRO Agent Extension with NEC ESMPRO Manager monitoring the server's BMC.

For details about NEC ESMPRO Agent Extension, see "NEC ESMPRO Agent Extension Installation Guide" in EXPRESSBUILDER.

1.3 BMC Configuration

You can specify configuration data to the BMC of the server by using BMC Configuration.

For details about BMC Configuration, see "BMC Configuration User's Guide" in EXPRESSBUILDER.

1.4 NEC ExpressUpdate Agent

You can easily download, manage and update the firmware or the software installed in this server by using NEC ExpressUpdate Agent.

For details about NEC ExpressUpdate Agent, see "NEC ExpressUpdate Agent Installation Guide" in EXPRESSBUILDER.

Tips

Updates are available for some firmware and software that do not support NEC ExpressUpdate. Refer to the following website to install these packages. http://www.nec.com/global/prod/express/index.html

1.5 Universal RAID Utility

Universal RAID Utility is an application used to manage and monitor the following RAID controllers:

- Onboard RAID Controller (LSI Embedded MegaRAID)
- N8103-149 RAID Controller (512MB, RAID 0/1)
- N8103-150 RAID Controller (512MB, RAID 0/1/5/6)
- N8103-151 RAID Controller (1GB, RAID 0/1/5/6)
- N8103-152 RAID Controller (1GB, RAID 0/1/5/6)
- N8103-160 RAID Controller (1GB, RAID 0/1/5/6)
- N8103-161 RAID Controller (1GB, RAID 0/1/5/6)
- N8103-171 RAID Controller (0MB, RAID 0/1)

For details about how to install and operate Universal RAID Utility, see "Universal RAID Utility User's Guide" on the attached EXPRESSBUILDER DVD.

If the requirements, such as the operating system, for Universal RAID Utility described in "Universal RAID Utility User's Guide" differs from the one described in the user's guide of this product, follow the requirements in the user's guide of this product.

1.5.1 Installing and setting up Universal RAID Utility

(1) Setup for BTO (Built To Order) models

If you purchased a BTO model configured with a RAID system, Universal RAID Utility is already installed. You do not need to install Universal RAID Utility for such models.

(2) Setup with EXPRESSBUILDER

When you use EXPRESSBUILDER, Universal RAID Utility can be easily installed along with Windows. Choose **Setup** in EXPRESSBUILDER and follow the displayed instructions.

(3) Setup using Universal RAID Utility installer

The Universal RAID Utility installer can be launched from the autorun menu of EXPRESSBUILDER.

Choose Integrated Installation from the autorun menu and follow the displayed instructions.

Download .NET Framework Versions 2.0 to 3.5 from the following web site and install it when you use Universal RAID Utility on Windows Server 2012.

http://msdn.microsoft.com/en-us/library/vstudio/hh506443.aspx

1.5.2 Management by NEC ESMPRO Manager

NEC ESMPRO Manager Ver. 5.5 or later is used to remotely reference and monitor the RAID system that is managed by Universal RAID Utility.

For details about NEC ESMPRO Manager, see "NEC ESMPRO Manager Installation Guide".

1.6 Express Report Service / Express Report Service(HTTPS)

To avoid system failures or to maintain the server quickly, Express Report Service / Express Report Service(HTTPS) informs the support center of the failure information, preventive maintenance information by E-Mail or modem. If you want to use this service, contact your sales representative and install NEC ESMPRO Agent before using this service.

You can install this service with Windows OS installation when using EXPRESSBUILDER.

For details about Express Report Service / Express Report Service(HTTPS), see Express Report Service / Express Report Service(HTTPS) Installation Guide in EXPRESSBUILDER.

1.7 NEC Product Info Collection Utility

NEC Product Info Collection Utility can collect various information related to the server all at once. You can collect the server information (Product Info) for maintenance by using this utility.

1.7.1 Installation

Follow the steps below to install this utility.

- Log on to Windows, and then insert EXPRESSBUILDER into the optical disk drive. Autorun Menu appears automatically.
- Click Applications from the menu and then click Product Info Collection Utility. The installation starts. Follow the instructions in the dialog boxes until installation is complete. This utility is usually installed to the C:\ezclct folder.

Tips

Log on to Windows with an account that has administrator privilege.The installation drive requires a free space of at least 2.5 GB.

1.7.2 Uninstallation

Uninstall the utility depending on the Windows installation type:

• Full installation :

Choose Add/Remove Programs from Control Panel and then click Product Info Collection Utility (Vx.x.x). Follow the instructions in the dialog boxes.

• Server Core installation :

Run the following command at the command prompt: Wmic product where name="Product Info Collection Utility" call uninstall

2. Bundled Software for "PC for Management"

This section describes the bundled software required to configure "PC for Management" used to manage the server system.

2.1 NEC ESMPRO Manager

NEC ESMPRO Manager can remotely control and monitor the hardware and the RAID system of the server. To use these features, install the bundle software for the server such as NEC ESMPRO Agent.

For details about NEC ESMPRO Manager, see NEC ESMPRO Manager Installation Guide or online help.

2.2 Express Report Service(MG)

To avoid system failures or to maintain the server quickly, Express Report Service(MG) informs the support center of the failure information or preventive maintenance information by E-Mail or Modem.

To use this feature, NEC ESMPRO Agent is required because Express Report Service usually works with it.

If NEC ESMPRO Agent cannot be installed to the server, you can install Express Report Service(MG) into NEC ESMPRO Manager instead of Express Report Service.

For details about Express Report Service(MG), see Express Report Service(MG) Installation Guide in EXPRESSBUILDER.