

# **Installation Guide (Windows)**

NEC Express Server Express5800 Series

# Express5800/R110h-1, T110h-S, T110h EXP335, 335A, 333, 333A, 334, 334A

Chapter 1 Installing Windows

Chapter 2 Installing Bundled Software

10.111.01-102.03 October 2016 © NEC Corporation 2016

# Manuals

Manuals for this product are provided as booklets (

| $\square$ | Safety Precautions and<br>Regulatory Notices | Describes points of caution to ensure the safe use of this server.<br>Read these cautions before using this server.           |
|-----------|--|---|
| $\square$ | Getting Started                              | Describes how to use this server, from unpacking to operations.<br>See this guide first and read the 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 suitable 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 precautions for installation                                       |  |  |  |
| Chapter 2: Installing Bundled<br>Software                                 | Installation of NEC ESMPRO, Universal RAID Utility, and other bundled software                              |  |  |  |
|   |   |  |  |  |
| 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 manuals   |   |  |  |  |
| The details of NEC ESMPRO, Universal RAID Utility, and the other features |   |  |  |  |

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# **Conventions Used in This Document**

# Signs and symbols for safety

WARNING and CAUTION are used in this guide as following meaning.



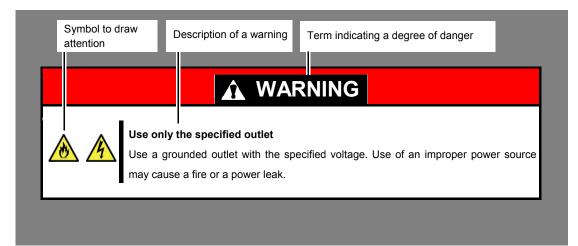
Indicates there is a risk of death or serious personal injury

Indicates there is a risk of burns, other personal injury, or property damage

Precautions and notices against hazards are presented with one of the following three symbols. The individual symbols are defined as follows:

|   | Attention         This symbol indicates the presence of a hazard if the instruction is ignored.           An image in the symbol illustrates the hazard type. |  | (Example)                             |
|---|---|--|---------------------------------------|
| - |   | This symbol indicates prohibited actions. An image<br>in the symbol illustrates a particular prohibited<br>action.           | (Example)<br>(Do not disassemble)     |
|   | Mandatory<br>Action   | This symbol indicates mandatory actions. An image in the symbol illustrates a mandatory action to avoid a particular hazard. | (Example)<br>E<br>(Disconnect a plug) |

#### (Example in this guide)



#### 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.

|      | Indicates critical items that must be followed when handling hardware or operating software. If the procedures described are not followed, <b>hardware failure, data loss, and other serious malfunctions could occur</b> . |
|------|---|
| Note | Indicates items that must be confirmed when handling 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. 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 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         |  |  |
|----------------------------|-----------------------------------|--|--|
|                            | Windows Server 2012 R2 Standard   |  |  |
| Windows Server 2012 R2     | Windows Server 2012 R2 Datacenter |  |  |
|                            | Windows Server 2012 R2 Foundation |  |  |
|                            | Windows Server 2012 Standard      |  |  |
| Windows Server 2012        | Windows Server 2012 Datacenter    |  |  |
| Windows Server 2008 R2     | Windows Server 2008 R2 Standard   |  |  |
| Willidows Server 2008 R2   | Windows Server 2008 R2 Enterprise |  |  |

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WPA Supplicant

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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 are subject to change without notice. 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/

## Safety notes

To use this server safely, read thoroughly Safety Precautions and Regulatory Notices that comes with your server.

# 1

# NEC Express5800 Series Express5800/R110h-1, T110h-S, T110h

# **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 by EXPRESSBUILDER.

Important When a graphics accelerator card of the option is equipped, please check the contents of bundled Startup Guide/User's Guide of a graphics accelerator card, and configure BIOS settings right.

#### 2. Setting Up the Operating System

Describes the flow chart of setting up the operating system.

#### 3. Setting Up Windows Server 2012 R2

Describes how to set up Windows Server 2012 R2.

#### 4. Setting Up Windows Server 2012

Describes how to set up Windows Server 2012.

#### 5. Setting Up Windows Server 2008 R2

Describes how to set up Windows Server 2008 R2.

#### 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 early 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 EXPRESSBUILDER to reconfigure RAID arrays or re-install the OS.

For details, see Chapter 2 (6. Details of EXPRESSBUILDER) in Maintenance Guide.

#### <u>Usage</u>

Remove a CD/DVD and removable media from the server, restart the server and press <F3> key during POST.

If you use an EXPRESSBUILDER DVD that created by ISO image file downloaded from our website, insert the DVD to the server and restart it.

## **1.2** Supported Windows OS

EXPRESSBUILDER supports the following editions of Windows operating systems.

- **EB** : Setup with EXPRESSBUILDER
- OS
- : Setup with Windows Standard Installer

| Windows OS                |               | Boot mode |        | Installation option |      |
|---------------------------|---------------|-----------|--------|---------------------|------|
|                           |               | UEFI      | Legacy | EB                  | OS   |
|                           | Standard      | ✓         | N/A    | $\checkmark$        | ✓    |
| Windows Server 2012 R2    | Datacenter    | ✓         | N/A    | $\checkmark$        | ✓    |
|                           | Foundation *1 | ✓         | N/A    | ~                   | ✓    |
| Windows Server 2012       | Standard      | √         | N/A    | ~                   | ✓    |
| Windows Server 2012       | Datacenter    | ✓         | N/A    | ~                   | ✓    |
| Windows Server 2008 R2 *2 | Standard      | N/A       | ~      | ~                   | √ *3 |
| Windows Server 2008 R2 2  | Enterprise    | N/A       | ~      | ~                   | √ *3 |

✓ : Supported

\*1 Only Express5800/T110h-S, T110h

\*2 Precautions for Windows Server 2008 R2 installation are as follows:

- Use EXPRESSBUILDER DVD. Cannot use EXPRESSBUILDER on Internal Flash memory (F3 key function).
- Use an internal optical disk drive on the server when installing. Cannot use a USB interface drive and remote media feature of EXPRESSSCOPE Engine 3.
- Use a display, mouse, keyboard, and other devces connected directly to the server. Cannot use the remote KVM feature of EXPRESSSCOPE Engine 3.

\*3 Onboard RAID Controller (LSI Embedded MegaRAID) is not supported.

# **1.3** Supported Service Pack

The following installation media and the Service Pack installations are supported by EXPRESSBUILDER.

| OS installation media                          | No Service Pack installation | Service Pack 1 installation |
|--|------------------------------|-----------------------------|
| Windows Server 2012 R2                         | $\checkmark$                 | N/A                         |
| Windows Server 2012                            | $\checkmark$                 | N/A                         |
| Windows Server 2008 R2 with Service Pack 1 (*) | $\checkmark$                 | N/A                         |
| Windows Server 2008 R2                         | $\checkmark$                 | $\checkmark$                |

 $\checkmark$  : Supported

\* Service Pack included is also installed when the Windows is installed.

## **1.4** Mass Storage Controllers Supported by EXPRESSBUILDER

The table below lists the controllers for this server, supported by 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 (1.6 Using Mass Storage Controller Not Supported by EXPRESSBUILDER*).

|   | Windows Server 2012<br>R2 | Windows Server 2012 | Windows Server 2008<br>R2 |  |  |  |
|---|---------------------------|---------------------|---------------------------|--|--|--|
| RAID Controllers supporting OS installation by EXPRESSBUILDER |                           |                     |                           |  |  |  |
| Onboard RAID Controller<br>(LSI Embedded MegaRAID)            | $\checkmark$              | $\checkmark$        | √ *1                      |  |  |  |
| N8103-176 RAID Controller<br>(1GB, RAID 0/1)                  | $\checkmark$              | $\checkmark$        | $\checkmark$              |  |  |  |
| IN8103-177 RAID Controller<br>(1GB, RAID 0/1/5/6)             | $\checkmark$              | $\checkmark$        | $\checkmark$              |  |  |  |
| N8103-178 RAID Controller<br>(2GB, RAID 0/1/5/6)              | $\checkmark$              | $\checkmark$        | ✓                         |  |  |  |
| N8103-188 RAID Controller<br>(RAID 0/1)                       | $\checkmark$              | $\checkmark$        | $\checkmark$              |  |  |  |
| Other options   |                           |                     |                           |  |  |  |
| N8103-142 SAS Controller                                      | $\checkmark$              | $\checkmark$        | $\checkmark$              |  |  |  |
| N8103-184 SAS Controller                                      | ✓                         | ✓                   | N/A                       |  |  |  |
| N8103-179 RAID Controller<br>(2GB, RAID 0/1/5/6) *2           | $\checkmark$              | $\checkmark$        | $\checkmark$              |  |  |  |
| N8190-157A<br>Fibre Channel Controller(1ch) *2                | ✓                         | ✓                   | ✓                         |  |  |  |
| N8190-158A<br>Fibre Channel Controller(2ch) *2                | ✓                         | ✓                   | ✓                         |  |  |  |
| N8190-159<br>Fibre Channel Controller(1ch) *2                 | ✓                         | ✓                   | ✓                         |  |  |  |
| N8190-160<br>Fibre Channel Controller(2ch) *2                 | $\checkmark$              | $\checkmark$        | ✓                         |  |  |  |

✓: Supported

#### \*1 Only Setup with EXPRESSBUILDER

\*2 Only Express5800/R110h-1

# **1.5** LAN Boards Supported by EXPRESSBUILDER

|  | Windows Server 2012 R2 | Windows Server 2012 | Windows Server 2008 R2 |  |  |  |
|--|------------------------|---------------------|------------------------|--|--|--|
| LAN board supporting OS installation by EXPRESSBUILDER |                        |                     |                        |  |  |  |
| None   | N/A                    | N/A                 | N/A                    |  |  |  |
| Other options  |                        |                     |                        |  |  |  |
| N8104-145<br>1000BASE-T Adapter (2ch)                  | N/A                    | N/A                 | ✓                      |  |  |  |
| N8104-149<br>10GBASE Adapter (SFP+/2ch)                | ✓                      | $\checkmark$        | ~                      |  |  |  |
| N8104-150<br>1000BASE-T Adapter (1ch)                  | ✓                      | $\checkmark$        | ✓                      |  |  |  |
| N8104-151<br>1000BASE-T Adapter (2ch)                  | ~                      | $\checkmark$        | ~                      |  |  |  |
| N8104-152<br>1000BASE-T Adapter (4ch)                  | ✓                      | $\checkmark$        | ✓                      |  |  |  |
| N8104-153<br>10GBASE-T Adapter (2ch)                   | $\checkmark$           | $\checkmark$        | N/A                    |  |  |  |

The table below lists the optional LAN boards for this server, supported by EXPRESSBUILDER.

✓: Supported

# **1.6** Using 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.

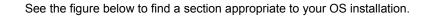
1. Have the instructions for the mass storage controller ready.

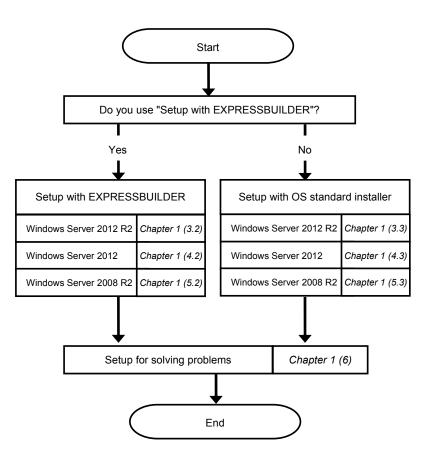
Note

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 system.
- 3. See Setup with Windows Standard Installer of each Windows family in this guide.

# 2. Setting Up the Operating System





# 3. Setting Up Windows Server 2012 R2

Set up Windows Server 2012 R2.

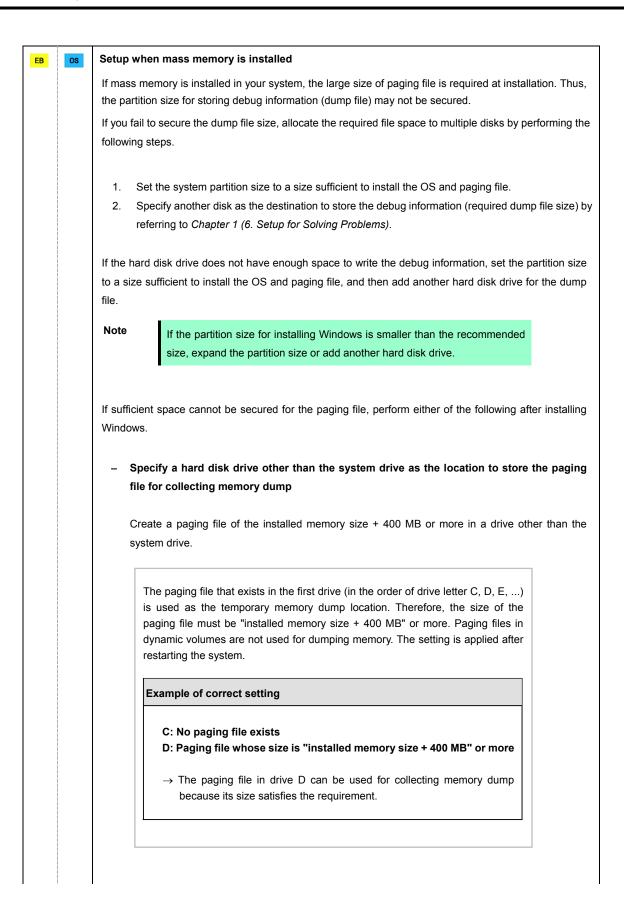
# 3.1 Before Starting Setup

Read through the cautions explained here before starting setup.

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

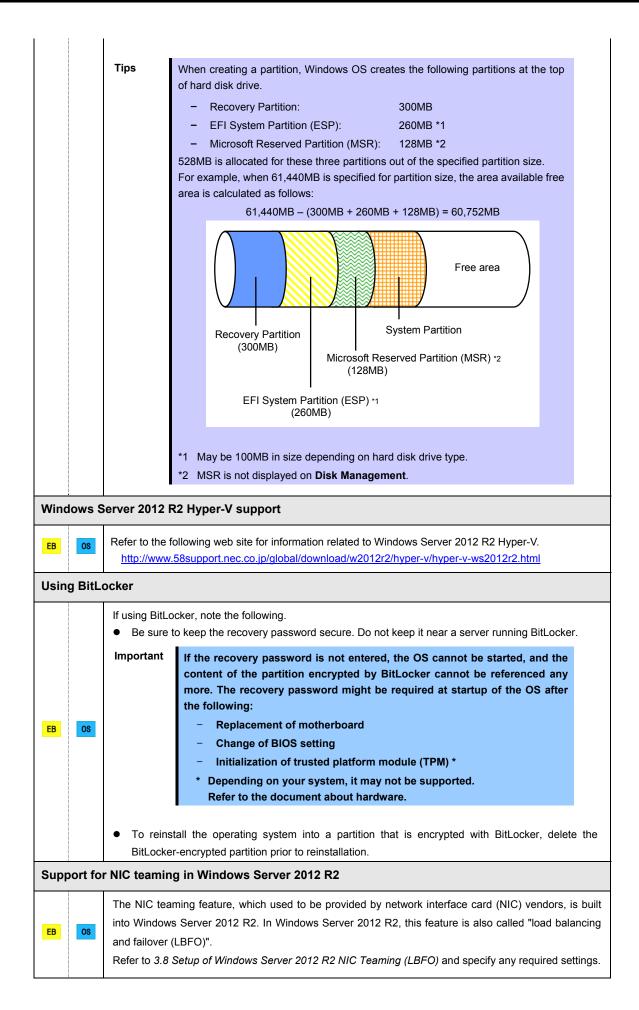
| BIOS | S settir | ng                 |   |              |
|------|----------|--------------------|---|--------------|
| EB   | OS       | Change<br>details. | e Boot Mode to UEFI Mode. See Chapter 2 (1. System BIOS) in Maintenan   | ce Guide for |
|      |          | Boot →             | ightarrow Boot Mode $ ightarrow$ UEFI   |              |
| EB   | OS       |                    | Enabled for X2APIC feature of processor. See Chapter 2 (1. System BIOS) in<br>or details.   | Maintenance  |
|      |          | Advand             | ced $ ightarrow$ Processor Configuration $ ightarrow$ X2APIC $ ightarrow$ Enabled   |              |
|      |          |                    | stallation, open <b>Boot Option Priorities</b> in BIOS SETUP to make sure that the han <b>Windows Boot Manager</b> is specified for optical disk drive.   | ligher boot  |
|      |          |                    | Example of correct setting  |              |
|      |          |                    | <ul> <li>[Boot]–[Boot Option Priorities]</li> <li>– Boot Option #1 [UEFI: Optical Disk Drive]</li> <li>– Boot Option #2 [Windows Boot Manager]</li> <li>→ The system can boot from OS installation media.</li> </ul>    |              |
|      |          |                    | Example of incorrect setting  |              |
| EB   | 08       |                    | <ul> <li>[Boot]–[Boot Option Priorities]</li> <li>– Boot Option #1 [Windows Boot Manager]</li> <li>– Boot Option #2 [UEFI: Optical Disk Drive]</li> <li>→ The system cannot boot from OS installation media.</li> </ul> |              |
|      |          | Note               | <ul> <li>Before opening BIOS SETUP, be sure to insert OS installation media into drive.</li> <li>If Windows Boot Manager is not displayed in Boot Option Priorities, ye confirm the boot priority.</li> </ul>           |              |
| EB   | OS       |                    | a graphics accelerator card of the option is equipped, please check the content<br>Guide/User's Guide of a graphics accelerator card, and configure BIOS settings   |              |

| Hard | ware o | configuration   |
|------|--------|---|
|      |        | The following hardware configurations require special procedures.   |
| EB   | OS     | Reinstalling to a mirrored volume<br>When you install Windows Server 2012 R2 in an environment with a mirrored volume created using<br>Windows, disable mirroring before installing the operating system and enable it again after the<br>installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the<br>mirrored volume.   |
| EB   | OS     | <b>Peripheral devices such as RDX/MO</b><br>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   | OS     | DAT, LTO, and similar media<br>Do not set media that is unnecessary to installation during setup.   |
| EB   | OS     | Installing in internal or external multiple hard disk drives (logical drives)<br>For details on installing operating systems to a system in which two or more RAID Controller exist, or to<br>an external disk drive* that is not subject to setup, refer to <i>Chapter 1</i> ( <i>3.10 Installation When Multiple<br/>Logical Drives Exist</i> ).<br>* Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit. |
| EB   | OS     | Reinstalling to hard disk drives that have been upgraded to dynamic disks<br>If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be<br>reinstalled to it with the existing partitions.<br>Set up the operating system with the Windows standard installer.  |



| Example   | of incorrect setting 1   |
|---|--|
|   | ging file whose size is smaller than the installed memory size<br>ging file whose size is "installed memory size + 400 MB" or mor  |
| colle   | paging file in drive C is used for collecting memory dump, but<br>the state of the paging file is smaller than the<br>alled memory size.   |
| Example   | of incorrect setting 2   |
| D: Pag  | ging file whose size is "installed memory size × 0.5"<br>ging file whose size is "installed memory size × 0.5"<br>ging file whose size is 400 MB   |
| MB"   | total paging file size in all drives is "installed memory size + 40, but collection may fail because only the paging file in drive C in for collecting memory dump.  |
| Example   | of incorrect setting 3   |
| D: Pag<br>(in c   | paging file exists<br>ging file whose size is "installed memory size + 400 MB" or mor<br>lynamic volume)   |
| → Pagi  | ng files in a dynamic volume cannot be used for collecting memor   |
| dum   | p. Thus, collecting memory dump fails.   |
| dum<br>ecify a driv   | p. Thus, collecting memory dump fails.<br>re other than the system drive for "Dedicated Dump File".  |
| dum<br>ecify a driv<br>eate the reg<br>mp File.   | p. Thus, collecting memory dump fails.<br>re other than the system drive for "Dedicated Dump File".  |
| dum<br>ecify a driv<br>ate the reg<br>np File.  | p. Thus, collecting memory dump fails.<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system drive for "Dedicated Dump File".<br>The other than the system          |
| dum<br>ecify a driv<br>ate the reg<br>np File.<br>When spec   | p. Thus, collecting memory dump fails.<br>The other than the system drive for "Dedicated Dump File".<br>In a specify the name is the Registry Editor and specify the name is the system of the   |
| dum<br>ecify a driv<br>ate the reg<br>np File.<br>When spec   | p. Thus, collecting memory dump fails.<br>re other than the system drive for "Dedicated Dump File".<br>istry shown below by using the Registry Editor and specify the name<br>ifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl  |
| dum<br>ecify a driv<br>eate the reg<br>mp File.<br>:When spec<br>Key:<br>Name:  | p. Thus, collecting memory dump fails.<br>The other than the system drive for "Dedicated Dump File".<br>This is the system drive for "Dedicate |
| ecify a driv<br>eate the reg<br>mp File.<br>When spec<br>Key:<br>Name:<br>Type:<br>Data:  | p. Thus, collecting memory dump fails.<br>The other than the system drive for "Dedicated Dump File".<br>pistry shown below by using the Registry Editor and specify the name<br>ifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ   |
| dum<br>ecify a driv<br>ate the reg<br>np File.<br>When spec<br>Key:<br>Name:<br>Type:<br>Data:<br>ote the foll<br>• Pay str                     | p. Thus, collecting memory dump fails.<br>The other than the system drive for "Dedicated Dump File".<br>pistry shown below by using the Registry Editor and specify the name<br>ifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys<br>bowing when specifying Dedicated Dump File:  |
| ecify a driv<br>eate the reg<br>mp File.<br>When spec<br>Key:<br>Name:<br>Type:<br>Data:<br>lote the foll<br>• Pay sti<br>• The se              | p. Thus, collecting memory dump fails.<br>The other than the system drive for "Dedicated Dump File".<br>This is the system drive for "Dedicated Dump File".<br>This is the system drive for "Dedicated Dump File".<br>This is the system drive for "Dedicated Dump File.<br>This is the specifying Dedicated Dump File.<br>This is the system drive for "Dedicated Dump File.<br>This is the specifying Dedicated Dump File.<br>This is the system drive for "Dedicated Dump File.<br>This is the specifying Dedicated Dump File.  |
| ecify a driv<br>eate the reg<br>mp File.<br>When spec<br>Key:<br>Name:<br>Type:<br>Data:<br>Note the foll<br>• Pay str<br>• The se<br>• Specify | p. Thus, collecting memory dump fails.<br>re other than the system drive for "Dedicated Dump File".<br>istry shown below by using the Registry Editor and specify the name<br>ifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys<br>bowing when specifying Dedicated Dump File:<br>ict attention to edit the registry.<br>tting is applied after restarting the system.  |

| The system partition size can be calculated b  | y using the following formula.  |
|--|---|
| Size required to install the OS + paging file s  | size + dump file size + application size  |
| Server with a GUI<br>Size required to install the OS<br>Paging file size (recommended)<br>Dump file size                             | = 9,200MB<br>= installed memory size × 1.5<br>= installed memory size + 400MB   |
| Application size   | = as required by the application  |
| Server Core installations<br>Size required to install the OS<br>Paging file size (recommended)<br>Dump file size<br>Application size | <ul> <li>= 6,400MB</li> <li>= installed memory size × 1.5</li> <li>= installed memory size + 400MB</li> <li>= as required by the application</li> </ul>   |
| For example, if the installed memory size is a with a GUI is selected, the partition size is call                                    | 1 GB (1,024 MB), application size is 100MB, and Server culated as follows:  |
| 9,200MB + (1,024MB × 1.5) + 1,024MB +<br>= 12,260MB  | 400MB + 100MB   |
| The above mentioned partition size is the mini<br>Ensure that the partition size is sufficient for sy                                | imum partition size required for system installation.<br>ystem operations.  |
| The following partition sizes are recommended<br>Server with a GUI :<br>Server Core installations :<br>*1 GB = 1,024 MB              | 32,768MB (32GB) or more   |
| (dump file). The initial size of<br>enough to store dump files.<br>Make sure you set a sufficie                                      | are recommended for collecting debug information<br>of the Windows partition paging file must be large<br>ent paging file size. If the paging file is insufficient,<br>ry shortage that may result in an inability to collect   |
|  | Size required to install the OS + paging file sizeServer with a GUISize required to install the OSPaging file size (recommended)Dump file sizeApplication sizeServer Core installationsSize required to install the OSPaging file size (recommended)Dump file sizeApplication sizeFor example, if the installed memory size is a with a GUI is selected, the partition size is called9,200MB + (1,024MB × 1.5) + 1,024MB + = 12,260MBThe above mentioned partition size is the mintEnsure that the partition size is sufficient for sizeThe following partition sizes are recommendedServer with a GUIServer Core installations*1 GB = 1,024 MBNote• The above paging file sizes<br>(dump file). The initial size or<br>enough to store dump files.<br>Make sure you set a sufficient<br>there will be a virtual memory |



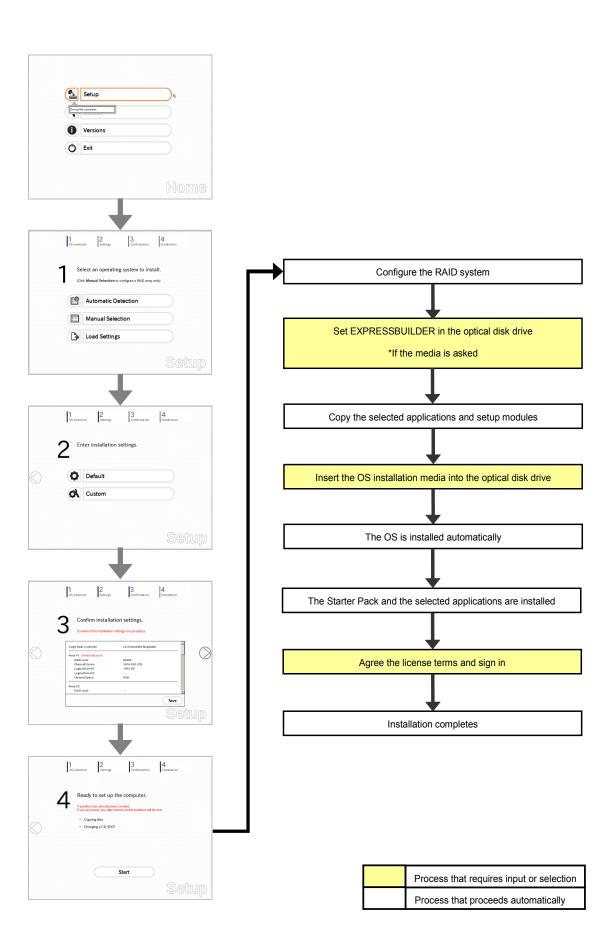
# 3.2 Setup with EXPRESSBUILDER

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 | <ul> <li>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:         <ul> <li>RAID settings</li> <li>Partition Settings</li> <li>Backing up user data, as needed, is recommended.</li> </ul> </li> <li>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.</li> </ul> |
|-----------|---|
| Note      | <ul> <li>The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER.<br/>The setting of SNP function may affect the system performance.<br/>Contact your sales representative for details.</li> <li>When using an onboard RAID controller (LSI Embedded MegaRAID):<br/>Do not support the creation of RAID10 by using the onboard RAID controller.<br/>Refer to Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when creating RAID10.</li> </ul>   |
| Tips      | <ul> <li>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.</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>.</li> </ul>  |

#### 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 R2 DVD-ROM*)
- > Either of the following EXPRESSBUILDER
  - Internal Flash Memory
  - EXPRESSBUILDER DVD (Option)
- > Prepare if needed:
  - Removable media for Windows OS parameter file

#### *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.

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).
- 3. Select **OS installation** \*\*\* **default** \*\*\*. You will automatically advance to step 4, with no need for further input.



The following window appears.



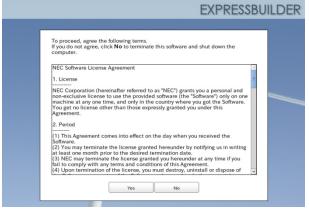
The server starts from EXPRESSBUILDER.



4. <u>Select English on the language selection window, and then click OK.</u>



5. When the following screen appears, read the contents and click Yes.



6. Click Setup.

| Setur  | Setup    | ₽ |
|--------|----------|---|
| ,<br>O | Versions |   |
| Ċ      | Exit     |   |

7. On the OS selection menu, select the OS to install or specify the parameter file.

|   | elect an operating system to ins |  |
|---|----------------------------------|--|
| e | Automatic Detection              |  |
|   | Manual Selection                 |  |
| B | Load Settings                    |  |

| □ When <i>not using</i> a parameter file : | Select <b>Automatic Detection</b> , and then go to Step 8. |
|--|--|
|  | Select Manual Selection, and then go to Step 9.            |
| □ When <i>using</i> a parameter file :     | Select Load Settings, and then go to Step 10.              |

the saved parameter file.

8. When *not using* a parameter file, let the OS on the installation media be recognized by using the

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

8-(1) Click Automatic Detection.

following procedure.

Note

| 1 2 3<br>OS selection Settings   | 4<br>Installation |
|--|-------------------|
| Select an operating system to in<br>(Click Manual Selection to configure a RAID arra |                   |
| Automatic Detection  | <b>D</b> \$       |
| Select an operating system<br>automatically with an installation<br>disc.            |                   |
| Load Settings  |                   |
|  | Setup             |

8-(2) Insert the OS installation media, and then click OK.

| Sele |  |                                |                    |  |
|------|--|--------------------------------|--------------------|--|
|      | e OS installation o<br>SBUILDER will det | lisc.<br>ect the OS you want t | o install.         |  |
|      |  |                                | ssage ID : B2014 ] |  |
| 6    |  |                                |                    |  |
|      |  |                                |                    |  |
|      |  |                                |                    |  |
|      |  |                                |                    |  |
|      | ОК                                       | Cancel                         |                    |  |

| 8-(3) | Click | $\bigcirc$ | on the right side of the so | creen. $\rightarrow$ Go to step 11. |
|-------|-------|------------|-----------------------------|-------------------------------------|
|-------|-------|------------|-----------------------------|-------------------------------------|

| 1 Se | elect an operating system to install.               |  |
|------|---|--|
| (CI  | ck Manual Selection to configure a RAID array only) |  |
| - 69 | Automatic Detection                                 |  |
|      | Manual Selection                                    |  |
|      | Load Settings                                       |  |

- 9. When *not using* a parameter file, select an OS by using the following procedure.
  - 9-(1) Click Manual Selection.

| 1 2 3<br>OS selection Settings   | on Installation |
|--|-----------------|
| Select an operating system to<br>(Click Manual Selection to configure a RAID |                 |
| Automatic Detection  |                 |
| Manual Selection   | <i>s</i>        |
| You can select the target OS of<br>the installation from the menu.           |                 |
|  | Setup           |

9-(2) From the Windows list, select Windows Server 2012 R2, and then click OK.

| 3 | Select an operating | Windows Server 2012 R2 | 0 |
|---|---------------------|------------------------|---|
|   | 0                   | K Cancel               |   |

9-(3) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 11.

| 1 |            | t an operatin      |                    |            |   |
|---|------------|--------------------|--------------------|------------|---|
| I | (Click M   | anual Selection to | configure a RAID a | rray only) |   |
|   | <b>P</b> A | utomatic De        | etection           |            | ( |
| ~ |            | lanual Selec       | tion               |            |   |
|   | Ca L       | oad Settings       | 5                  |            |   |

- 10. When using the parameter file, load the parameter file by using the following procedure.
  - 10-(1) Click Load Settings.

| 1<br>OS selec | tion Settings Confirmatio      | n Installation |
|---------------|--------------------------------|----------------|
|               | elect an operating system to i |                |
| E             | Automatic Detection            |                |
|               | Manual Selection               |                |
| Þ             | Load Settings                  | %              |
| Load          | nstallation settings.          | Setu           |

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

| Places        | Name      | ~ | Size Modified |
|---------------|-----------|---|---------------|
| Search        | 🛅 cdrom 1 |   | 05/08/2014    |
| Recently Used |           |   |               |
| o root        |           |   |               |
| 📓 Desktop     |           |   |               |
| E File System |           |   |               |
| Documents     |           |   |               |
| Music         |           |   |               |
| Pictures      |           |   |               |
| Videos        |           |   |               |
| Downloads     |           |   |               |
|               |           |   |               |
|               |           |   |               |
|               |           |   |               |
|               |           |   |               |
|               |           |   |               |
|               |           |   |               |
|               |           |   |               |
| Add Remove    |           |   |               |

Tips

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

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

| 1 |    | ect an operating |     |   |
|---|----|------------------|-----|---|
| - |    |                  |     | ( |
|   | e  | Automatic Det    |     | 2 |
|   |    | Manual Select    | ion |   |
| ~ | Ŀ, | Load Settings    |     |   |

10-(4) When the parameter file is correctly loaded, click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 14.

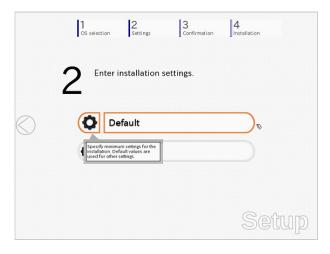
Click **Custom** to check and modify the setting in the wizard.  $\rightarrow$  Go to step 13-(1).

| 1     2       OS selection     Settings | 3 Confirmation Installation |
|---|-----------------------------|
| Default                                 | aungs.                      |
| ✓ 🕅 Custom                              |                             |

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

When selecting **Default** : Go to Step 12.When selecting **Custom** : Go to Step 13.

12. Click Default.



12-(1) Select the edition of the OS to install from the **Edition** list.

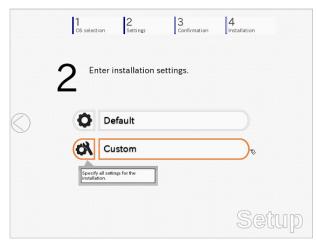
| A 11  | 10              | 10                | 1.4 |           |
|---|-----------------|-------------------|-----|-----------|
| Wizard  |                 |                   |     |           |
| Enter the minimum settin<br>Click <b>Custom</b> if you want |                 |                   |     |           |
| Basic Settings  |                 |                   |     |           |
| Operating system  | : Windows Se    | rver 2012 R2      |     |           |
| Edition   | : Standard(S    | erver with a GUI) |     |           |
| Password Settings   | : English       | ÷                 |     |           |
| Administrator Pa  | ssword          | :                 | ()  | Required) |
| Reenter Adminis   | trator Password | :                 | (8  | Required) |
|   |                 |                   |     |           |
|   | Finish          |                   | Ca  | ncel      |

- 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 (A Z), lowercase letters (a z) , and symbols.
- 12-(2) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 14.

| OS selecti | on Settings        | 3<br>Confirmation | 4<br>Installation |             |
|------------|--------------------|-------------------|-------------------|-------------|
| 2 "        | ter installation s | settings.         |                   |             |
| ~ 0        | Default            |                   |                   | $\bigcirc$  |
| Ø          | Custom             |                   |                   | Û           |
|            |                    |                   | Sef               | าเกิ        |
|            | 2                  | ✓ ♥ Default       |                   | ✓ O Default |

13. Click Custom.



13-(1) Use this menu to configure the RAID system and logical drives as needed.

|  |        | e logical drive on the follow<br>d for the OS installation if t | he incorrect RAID controller i |
|--|--------|---|--------------------------------|
| Device Information-                            |        |   |                                |
| RAID Controller                                |        | :   | Detail                         |
| Number of Physica                              | Drives | : 2   |                                |
| Summary of RAID Arra                           | у      |   |                                |
| Array #1<br>RAID0 (1disk)<br>Logical Drive1 (1 | 117GB) |   |                                |
| RAID Configuration                             |        |   |                                |
| Skip Configurir                                |        |   |                                |
|  |        |   | 1 / 11 Page                    |
|  | Next   |   | Cancel                         |

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 Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when creating RAID10.

#### 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.

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

Choose Install Windows using EXPRESSBUILDER, and then click Next.

| Choose Use Windows s<br>Windows installation disc<br>Choose Install Window<br>applications easily. |                    |  | the installer contained in t |
|--|--------------------|--|------------------------------|
| Basic Settings<br>Operating system   | : Wi               | ndows Server 2012 R2                                 |                              |
| O Use Windows  | standard installer |  |                              |
| Install Window     Edition     Language     Time Zone  | : English          | ER<br>erver with a GUI)<br>)) Pacific Time (US & Can | ada)                         |
|  |                    |  | 4 / 11 Page                  |
| Back   | Next               |  | Cancel                       |

13-(3) Check the settings specified for **Partition Settings**.

Modify the settings as needed, and then click  $\ensuremath{\textbf{Next}}.$ 

| Wind | dows will be installed in | ystem partition for Window<br>nto the first hard disk drive<br>sting partition, shown with | or logical drive.        |  |
|------|---------------------------|--|--------------------------|--|
| Į    | ID 08(FAT32)              | n size :   | Space<br>5GB)<br>40 (GB) | *1TB=1024G8<br>10GB / Maximum: 1116G8) |
|      |                           |  |                          | 5 / 11 Page                            |
|      | Back                      | Next   |                          | Cancel                                 |

Important • Partition size

Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (3.1 Before Starting Setup)*.)
The maximum partition size is 2,097,152 MB.
The entire contents of the destination hard disk drive will be deleted.

### 13-(4) Enter the user information, and then click Next.

| Administrator Passwo       |               | ters. |                    |                             |
|----------------------------|---------------|-------|--------------------|-----------------------------|
| three of the four categori |               |       |                    | must contain characters fro |
| User Information           |               |       |                    |                             |
| Computer Name              |               | :     | Automatic Numberin | g                           |
|                            |               |       | BD4394570815       | (Required)                  |
| User Name                  |               |       | Administrator      |                             |
| Administrator Pas          | sword         | :     |                    | (Required)                  |
| Reenter Administr          | ator Password | :     |                    | (Required)                  |
|                            |               |       |                    |                             |
|                            |               |       |                    |                             |
|                            |               |       |                    |                             |
|                            |               |       |                    |                             |
|                            |               |       |                    |                             |
|                            |               |       |                    |                             |
|                            |               |       |                    | 6 / 11 Page                 |

| Note | Computer name and Administrator Password are required parameters.<br>Enter Administrator Password that satisfies the following conditions:<br>– Contains 6 or more characters  |
|------|--|
|      | <ul> <li>Contains of more characters</li> <li>Contains characters from at least three of the following categories: numbers,</li> </ul>   |
|      | uppercase letters (A - Z), lowercase letters (a - z), and symbols.   |
| Tips | <ul> <li>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.</li> <li>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.</li> </ul> |

13-(5) Check the settings specified for **Network Protocols**. Modify the settings as needed, and then click **Next**.

| Choose Custom Settings, o | click Advanced, if you want to type | an IP address. |
|---------------------------|-------------------------------------|----------------|
| - Network Protocols       |                                     |                |
| Standard Settin           | gs                                  |                |
| Custom Settings           |                                     |                |
| Standard Adapte           | er - Internet Protocol (IPv4)       | Advanced       |
|                           |                                     |                |
|                           |                                     |                |
|                           |                                     |                |
|                           |                                     |                |
|                           |                                     | 7 / 11 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.

#### 13-(6) Specify the domain or workgroup.

Check the settings, modify them as needed, and then click Next.

| Join this computer to a domain or a<br>Choose Join a workgroup or Join | workgroup.<br>a domain, and then enter parameters. |
|--|--|
| <ul> <li>Join a workgroup</li> <li>Workgroup Name</li> </ul>           | : WORKGROUP  |
| ○ Join a domain  |  |
| Domain Name<br>Account Name  | :  |
| Password   | :  |
| Reenter Password   | :  |
|  |  |
|  | 8 / 11 Page  |
| Back   | xt Cancel  |

13-(7) Check the settings of Windows components.

Modify the settings as needed, and then click Next.

| Choose Windows components you want to install.  |             | - | Choose Windows components you wa   | nt to install.                                   |             |
|---|-------------|---|--|--|-------------|
| Server Roles     Web Server (IS)     DICP Server     DICP Server     DICP Server     DICP Server     DICP Server     Windows Factures     Single TCP/P Services     Single TCP/P Services | Advanced    | C | Server Roles Urb Server Urb Server Urb Server Windows Features Sr SnMP Service With Server | Print and Document Services File Services HyperV | Advanced    |
|   | 9 / 11 Page |   |  |  | 9 / 11 Page |
| Back Next   | Cancel      |   | Back Next  |  | Cancel      |
|   |             |   |  |  |             |

13-(8) Check the settings of applications. Modify the settings as needed, and then click **Next**.

| Choose applications you want to install.<br>See <b>Description</b> about each application. |   |
|--|---|
| Available Applications   | Selected Applications   |
| Description  | NEC ESMPRO ServerAgentService<br>Express Report Service(HTTPS)<br>Add >>> Universal RAID Utility<br>Microsoft. NET Framework Version 3.5.1<br>Microsoft. NET Framework Version 4.5.2<br>NEC ExpressUpdate Agent |
| Back Next  | 10 / 11 Page  |

### On the following screen, click Finish.

| The settings are now complete.<br>Click <b>Finish</b> to close this window. |              |
|---|--------------|
| Click Finish to close this window.  |              |
|   |              |
|   |              |
|   |              |
|   |              |
|   |              |
|   |              |
|   |              |
|   |              |
|   |              |
|   |              |
|   |              |
|   | 11 / 11 Page |
|   |              |
| Back Finish   | Cancel       |

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

| 2 Enter installation settings. |   |
|--------------------------------|---|
|                                |   |
| Default                        | ( |
| ✓ 🕅 Custom                     |   |

14. Check the parameter settings.

| To save the | e settings   | s, click Sa        | ave.   |                   |            |
|-------------|--|--------------------|--|-------------------|------------|
|             |  | 2<br>Settings      | 3<br>confirmation                                      | 4<br>Installation |            |
| $\bigcirc$  | (Check if v  |                    | tings are specified)                                   |                   | $\bigcirc$ |
|             | Operating system<br>(Install Windows us<br>Edition<br>Language | ing EXPRESSBUILDER | : Windows Server 2<br>: Standard(Server v<br>: English |                   | Jup        |

Click  $\bigcirc$  on the right side of the screen.

15. The setup process starts. Click Start to continue setup.

|                   | 1<br>OS selection          | 2<br>Settings                              | 3<br>Confirmation                      | 4<br>Installation |    |
|-------------------|----------------------------|--|--|-------------------|----|
|                   | Ready                      | to set up the                              | e.computer.                            |                   |    |
|                   | A partition<br>If you proc | has already been ci<br>eed, any data store | reated.<br>Id on the partition will be | lost              |    |
|                   | <ul> <li>Config</li> </ul> | uring RAID system                          |  |                   |    |
| $\langle \rangle$ | * Copyi                    | ng files                                   |  |                   |    |
| $\bigcirc$        | <ul> <li>Chang</li> </ul>  | ing media                                  |  |                   |    |
|                   |                            |  |  |                   |    |
|                   |                            |  |  |                   |    |
|                   |                            | <u> </u>                                   | Start                                  |                   |    |
|                   |                            |  |  |                   |    |
|                   |                            |  |  | Set               | up |

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

If EXPRESSBUILDER DVD is already set, this message will not appear.

| Selection |                     |        |                    |  |
|-----------|---------------------|--------|--------------------|--|
| Inser     | t the EXPRESSBUILDE |        | ssage ID : J2002 ] |  |
|           |                     |        |                    |  |
| 3         |                     |        |                    |  |
|           |                     |        |                    |  |
|           |                     |        |                    |  |
|           | ОК                  | Cancel |                    |  |

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

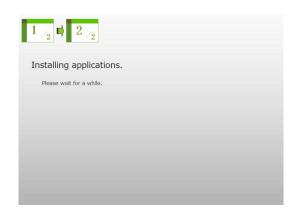
| p until the    |
|----------------|
|                |
|                |
| e ID : J2004 ] |
|                |
|                |
|                |
|                |

Windows Server 2012 R2 is installed automatically.

Wait for completion (about 40 minutes) without performing any operation.

18. The Starter Pack and the selected applications are automatically installed.Wait for completion without performing any operation.

|                   | 2         |  |  |
|-------------------|-----------|--|--|
| Installing Star   | ter Pack. |  |  |
| Please wait for a | while.    |  |  |
|                   |           |  |  |
|                   |           |  |  |
|                   |           |  |  |
|                   |           |  |  |
|                   |           |  |  |
|                   |           |  |  |



19. Read the terms of License Agreement. Click I accept (only in the server with a GUI).

| Ple | ase read the license terms.   |
|-----|---|
| м   | CROSOFT SOFTWARE LICENSE TERMS  |
| МІ  | CROSOFT WINDOWS SERVER 2012 R2 STANDARD   |
| The | ese 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.   |
|     | ase read them. They apply to the software named above, which includes the media on which you received it, i<br>y. The terms also apply to any Microsoft:  |
|     | updates,  |
|     | supplements,  |
|     | Internet-based services, and  |
|     | support services  |
| sup | this software, unless other terms accompany those items. If so, those terms apply, If you obtain updates or<br>pplements directly from Microsoft, Microsoft, and not the manufacturer or installer, licenses those to you.<br>Intel paper license terms, which may come with the software, take the place of any on-screen license terms. |
| Ву  | using the software, you accept these terms. If you do not accept them, do not use the software.   |

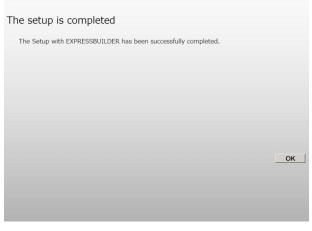
20. Press the CTRL+ALT+DEL keys to sign in.



Type the password you have specified in step 12-(1) or 13-(4).

|   | Central Administrator  |
|---|------------------------|
| ф | Windows Server 2012 R2 |

#### 21. Click OK.



- 22. See "Chapter 1 (3.5 Checking installation of EXPRESSBUILDER)" to confirm that EXPRESSBUILDER has been installed in Windows.
- 23. Follow the instructions described in Chapter 1 (3.6 Setting Up Device Drivers) to set up the device drivers.
- 24. Confirm if Windows is activated according to Chapter 1 (3.7 License Authentication).
- 25. See Chapter 1 (3.8 Setup of Windows Server 2012 R2 NIC Teaming (LBFO)) to setup a team as needed.
- 26. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).
- 27. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.

Setup with EXPRESSBUILDER is now complete.

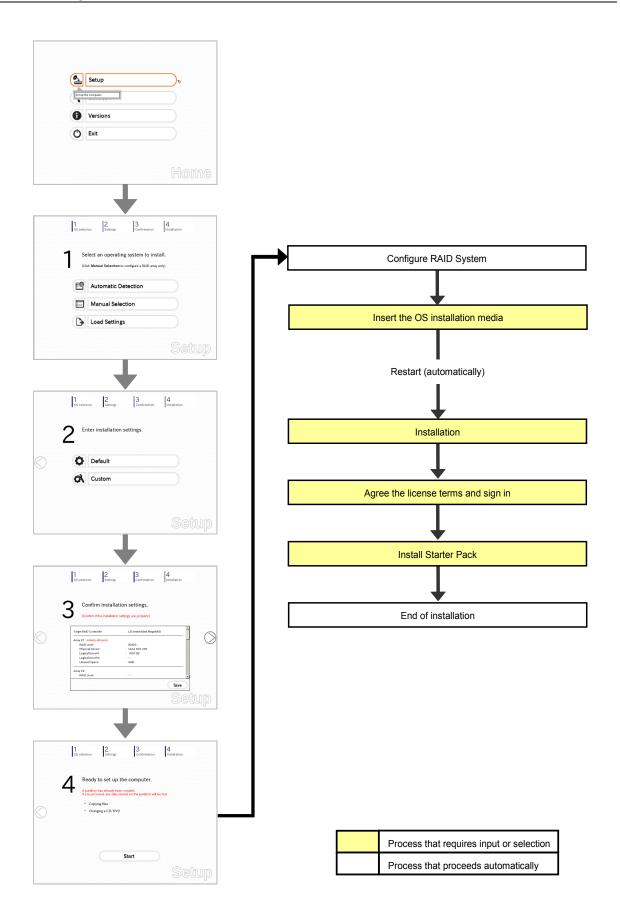
# 3.3 Setup with Windows Standard Installer

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<br>drive depending on the settings. Pay attention to input parameters.<br>You must be especially careful when configuring the following:<br>– RAID settings<br>When re-installing an OS, backing up user data, as needed, is recommended.               |
|-----------|--|
| Note      | When using an onboard RAID controller (LSI Embedded MegaRAID):<br>Do not support the creation of RAID10 by using the onboard RAID controller.<br>Refer to Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when<br>creating RAID10.   |
| Tips      | <ul> <li>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.</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>.</li> </ul> |

## *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 R2 DVD-ROM*)
- > Either of the following EXPRESSBUILDER
  - Internal Flash Memory
  - EXPRESSBUILDER DVD (Option)
- > Prepare if needed:

Removable media for Windows OS parameter file

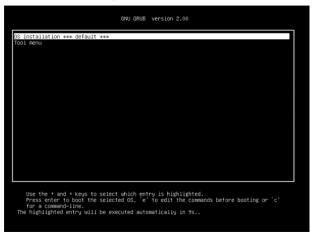
## 3.3.3 Setup procedure

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).
- 3. 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.



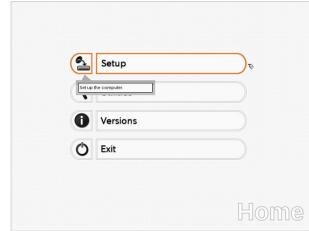
4. <u>Select English on the language selection window, and then click OK</u>.



5. When the following screen appears, read the contents and click Yes.

| To proceed, agree the<br>If you do not agree, cli<br>computer.  | following terms.<br>ck $\ensuremath{\text{No}}$ to terminate this software and shut down the  |
|---|---|
| NEC Software License  | Agreement   |
| 1. License  | =   |
| non-exclusive license t<br>machine at any one tir   | einafter referred to as "NEC") grants you a personal and<br>to use the provided software (the "Software") only on one<br>me, and only in the country where you got the Software.<br>er than those expressly granted you under this  |
| 2. Period   |   |
| Software.<br>(2) You may terminate<br>at least one month pri-<br>(3) NEC may terminate<br>fail to comply with any | mes into effect on the day when you received the<br>the license granted hereunder by notifying us in writing<br>or to the desired termination date.<br>The license granted you hereunder at any time if you<br>terms and conditions of this Agreement.<br>of the license, you must destroy, uninstall or dispose of |

6. Click Setup.



7. On the **OS selection** menu, select the OS to install or specify the parameter file.

| 1 2 3<br>OS selection Settings Con                                   | irmation Installation   |
|--|---|
| Select an operating system<br>(Click Manual Selection to configure a |   |
| Automatic Detection  |   |
| Load Settings  |   |
|  | Setup   |
| □ When <i>not using</i> a parameter fil                              | <ul> <li>e : Select Automatic Detection, and then go to Step 8.</li> <li>: Select Manual Selection, and then go to Step 9.</li> </ul> |
| □ When <i>using</i> a parameter file                                 | : Select Load Settings, and then go to Step 10.   |
|  | When setting up again, parameter input via the wizard can be omitted by loading he saved parameter file.                              |

- 8. When *not using* a parameter file, let the OS on the installation media be recognized by using the following procedure.
  - 8-(1) Click Automatic Detection.

| <b>1</b> s | elect an operating system to i                          | nstall.   |
|------------|---|-----------|
| (0         | Click Manual Selection to configure a RAID ar           | ray only) |
|            | Automatic Detection                                     | <i>B</i>  |
| Selection  | t an operating system<br>matically with an installation |           |
| ß          | Load Settings   |           |

8-(2) Insert the OS installation media, and then click **OK**.

|   | Insert the OS installation<br>EXPRESSBUILDER will of |   | nt to install.       |  |
|---|--|---|----------------------|--|
|   |  | I | Message ID : B2014 ] |  |
| 0 |  |   |                      |  |
|   |  |   |                      |  |
|   |  |   |                      |  |

|  |          |             | f the screer                               |     |            |
|--|----------|-------------|--|-----|------------|
|  |          |             | g system to inst<br>configure a RAID array |     |            |
|  |          | utomatic De | etection                                   |     | $\bigcirc$ |
|  |          | anual Selec | ction                                      |     |            |
|  | <b>]</b> | oad Setting | 5  |     |            |
|  |          |             |  | Set | tup        |

- 9. When not using a parameter file, select an OS by using the following procedure.
  - 9-(1) Click Manual Selection.

| 1<br>OS selection             | 2<br>Settings                              | 3<br>Confirmation | 4<br>Installation |
|-------------------------------|--|-------------------|-------------------|
|                               |  | g system to ins   |                   |
|                               | Automatic De                               | etection          |                   |
|                               | Manual Selec                               | tion              | <i>b</i>          |
| You can set<br>the installati | ect the target OS of<br>ion from the menu. | •                 |                   |
|                               |  |                   | Setup             |

9-(2) From the Windows list, select Windows Server 2012 R2, and then click OK.

|   | Select an operating system to install. |  |
|---|--|--|
|   | Windows Server 2012 R2                 |  |
|   | CRAID Configuration Only               |  |
| 3 |  |  |
|   |  |  |
|   |  |  |
|   | ·                                      |  |

| 9-(3) | Click | $\bigcirc$ c | on the i         | right | side o        | of th | ne scre           | en. | $\rightarrow$ Go  | to st | ep 11.     |
|-------|-------|--------------|------------------|-------|---------------|-------|-------------------|-----|-------------------|-------|------------|
|       |       |              | 1<br>OS selectio | 'n    | 2<br>Settings |       | 3<br>Confirmation | .   | 4<br>Installation |       |            |
|       |       |              |                  |       |               |       |                   |     |                   |       |            |
|       |       | -            |                  |       |               |       | /stem to ir       |     |                   |       |            |
|       |       |              | Ľ                | Auto  | matic D       | Dete  | ction             |     |                   |       | $\bigcirc$ |
|       |       | *            |                  | Man   | ual Sele      | ectio | 'n                |     |                   |       |            |
|       |       |              | B                | Load  | Setting       | gs    |                   |     |                   |       |            |
|       |       |              |                  |       |               |       |                   |     | Se                | etu   | lþ         |

- 10. When using the parameter file, load the parameter file by using the following procedure.
  - 10-(1) Click Load Settings.

| 1 2 3<br>OS selection Settings Confirmation   | 4<br>Installation |
|---|-------------------|
| Select an operating system to instal<br>(Click Manual Selection to configure a RAID array on) |                   |
| Automatic Detection   |                   |
| Manual Selection  |                   |
| Load Settings   |                   |
| Load installation settings.   | Setup             |

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

|               | Name     | ~ | Size | Modified   |
|---------------|----------|---|------|------------|
| 💁 Search      | 🛅 cdrom1 |   |      | 05/08/2014 |
| Recently Used |          |   |      |            |
| oot 🛛         |          |   |      |            |
| 🕺 Desktop     |          |   |      |            |
| File System   |          |   |      |            |
| Documents     |          |   |      |            |
| Music         |          |   |      |            |
| Pictures      |          |   |      |            |
| Videos        |          |   |      |            |
| Downloads     |          |   |      |            |
|               |          |   |      |            |
|               |          |   |      |            |
|               |          |   |      |            |
|               |          |   |      |            |
|               |          |   |      |            |
|               |          |   |      |            |
|               |          |   |      |            |

Tips

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

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

| 0S select | ion Settings     | 3<br>Confirmation | 4<br>Installation |     |
|-----------|------------------|-------------------|-------------------|-----|
|           | lect an operatin |                   |                   |     |
|           | Automatic De     |                   | only)             | C   |
|           | Manual Selec     | ction             |                   |     |
| ✓ 🕒       | Load Setting     | s                 |                   |     |
|           |                  |                   | Set               | tup |

10-(4) When the parameter file is correctly loaded, click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 12.

Click **Custom** to check and modify the setting in the wizard.  $\rightarrow$  Go to step 11-(1).

| 2 | Enter ins     | stallation se | ettings. |  |
|---|---------------|---------------|----------|--|
|   | <b>Ö</b> Defa | ault          |          |  |
| ~ | Cust          | tom           |          |  |

11. Click Custom.

| 2 Enter installation settings. | Default                                    | 1<br>OS selection | 2<br>Settings        | onfirmation |
|--------------------------------|--|-------------------|----------------------|-------------|
|                                | Custom                                     | 2 Enter           | installation setting | S.          |
| Custom                         | Specify all settings for the               | 0                 | efault               |             |
|                                | Specify all settings for the installation. |                   | ustom                | <i>v</i>    |

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

| Device Information-                              |            |     |             |
|--|------------|-----|-------------|
| RAID Controller                                  |            | :   | Detail      |
| Number of Physical [                             | Drives     | : 2 |             |
| Summary of RAID Array                            |            |     |             |
| Array #1<br>RAIDO (1disk)<br>Logical Drive1 (111 | 7GB)       |     |             |
| RAID Configuration                               |            |     |             |
| Skip Configuring                                 | RAID Array |     |             |
|  |            |     |             |
|  |            |     | 1 / 11 Page |

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 Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when creating RAID10.

#### 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.

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

Choose Use Windows standard installer, and then click Next.

| ttings-<br>rating system | : W   | indows Server 2012                               | R2                |   |
|--------------------------|---|--|-------------------|---|
|                          |   |  |                   |   |
| Jse Windows sta          | andard installer                                    |  |                   |   |
| stall Windows u          | ising EXPRESSBUILT                                  | DER  |                   |   |
|                          | 0   |  |                   |   |
| anguage                  |   |  |                   |   |
| fime Zone                |   | 0) Pacific Time (US                              | & Canada)         |   |
|                          | stall Windows u<br>Edition<br>Language<br>Fime Zone | Edition : <u>Standard(</u><br>Language : English | anguage : English | Edition : Standard(Server with a GUI)  0] |

| The settings are now complete<br>Click <b>Finish</b> to close this wind | ow.    |              |
|---|--------|--------------|
|   |        |              |
|   |        |              |
|   |        |              |
|   |        | 11 / 11 Page |
| Back  | Finish | Cancel       |

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

| 2 Enter installation | settings. |
|----------------------|-----------|
| Default              |           |
| Custom               |           |
|                      |           |

12. Check the parameter settings.To save the settings, click Save. Click  $\bigcirc$  on the right side of the screen.

|   | OS selection       | 2<br>Settings         | 3<br>Confirmation     | 4<br>Installation |   |
|---|--------------------|-----------------------|-----------------------|-------------------|---|
|   | Confir             | m installatio         | n settings.           |                   |   |
|   | 5 (Check if        | valid installation se | ttings are specified) |                   |   |
| ) | Skip configuring R | AID array.            |                       |                   | C |
|   | Operating system   |                       | : Windows Server 20   | 012 R2            |   |
|   | (Use Windows star  | ndard installer)      |                       |                   |   |
|   | Copying OEM driv   | ers                   | : No                  |                   |   |
|   |                    |                       |                       | Save              |   |
|   |                    |                       |                       | Qal               |   |

13. The setup process starts.

Click Start to continue setup.

|   | 1 2 3 4<br>OS selection Settings Confirmation   |
|---|---|
|   | Ready to set up the computer.   |
| " | A partition has already been created.<br>If you proceed, any data stored on the partition will be lost. |
|   | Configuring RAID system   |
|   | Changing a CD/DVD   |
|   | <ul> <li>Installing an OS</li> </ul>  |
|   |   |
|   |   |
|   | Start   |
|   |   |
|   | Setu  |

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

|   | Insert an OS installation | n disc for installing | ID : J2000 ]        |
|---|---------------------------|-----------------------|---------------------|
|   |                           |                       | rone presidentes Tr |
| ? |                           |                       |                     |
|   |                           |                       |                     |
|   |                           |                       |                     |
|   |                           |                       |                     |

- 15. The server reboots automatically. Press the <F3> key when the following message appears during POST. Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network
- 16. The system starts from the OS installation media.

The message "Press any key to boot from CD or DVD..." is displayed on the top of the screen.

Press <Enter> key to start the system from the installation media.

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.

17. Click Next.

| Windows Setup   |          |
|---|----------|
| Windows Server 2012 R2  |          |
|   |          |
| Language to install: English (United States)                                      | <b>•</b> |
|   | •        |
| Time and currency formate English (United States)                                 |          |
| Lime and currency tormat: English (United States)<br>Keyboard or input method: US | •        |
|   | •        |

- If the following message appears, go to step 18.
- If not, go to step 20.

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

 Select the destination, and then click OK. Specify the displayed drive as INTER-FLASH.

\011\win\winnt\drivers\01\_storage\1\_al\_07

Tips

- The volume label of Internal Flash Memory is INTER-FLASH.
- If INTER-FLASH label is not displayed, reboot the server, and then perform setup again from step 14.
- 19. Select the following driver from the driver list shown, and then click Next.

LSI Embedded MegaRAID

- 20. Type the product key, and then click Next.
  - If you are using Backup DVD, this screen does not appear. Go to the next step.

| Memory States      Enter the product key to activate Windows care in or in a message that shows you bought      the product key to be that Windows come in or in a message that shows you bought      the product key to be that the this XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX      The product key to be that the this XXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX  |                            |  | _                      |
|--|----------------------------|--|------------------------|
| It should be on the lack of the box that Windows came in or in a message that shows you bought Windows.<br>The prevalent key looks like their 20000-2000-20000-20000-20000-20000-20000-20000-20000-20000-2000- |                            | 🕞 🔬 Windows Setup  |                        |
| Windows.<br>The product lay looks like the 2000-20000-20000-20000<br>Dashen will be added automatically.   |                            | Enter the product key to activate Windows  |                        |
| Dashen wil ise added automatically.  | sage that shows you bought | It should be on the back of the box that Windows came in or in a message<br>Windows. |                        |
|  |                            | The product key looks like this: X000X-X000X-X000X-X000X-X000X                       |                        |
|  |                            |  |                        |
| Divery titlement Bost  |                            |  |                        |
| Divery statement   |                            |  |                        |
| Privacy statement [jot]  |                            |  |                        |
| Bioacy statement [bot ]  |                            |  |                        |
| Divery littement   |                            |  |                        |
| Divery Hatement East   |                            |  |                        |
| Bioacy statement [juit   |                            |  |                        |
|  | Next                       | Privacy statement  |                        |
|  |                            |  |                        |
|  |                            |  |                        |
|  |                            |  |                        |
|  |                            |  |                        |
|  |                            |  |                        |
| Collecting information 2 Installing Windows  |                            | 2 Installing Windows   | Collecting information |

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

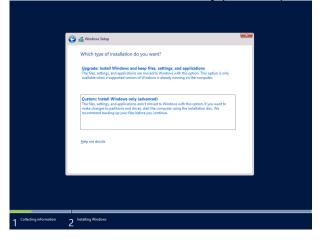
|                            | ) d <b>g</b> Windows Setup  | -                          |   | 1 |
|----------------------------|---|----------------------------|---|---|
|                            | Select the operating system you want to install<br>Operating system<br>Windows Server 2012 Standard (Server Core Installation)<br>Windows Server 2012 Standard (Server and In COI)    | Architecture<br>x64<br>x64 | Date modified<br>7/26/2012<br>7/26/2012 |   |
|                            | Decoptions<br>Decoptions<br>page-factors but cannot be non on a Server Core installation,<br>supported. You can aveleb to a different installation option is<br>Options. <sup>1</sup> | All server roles and       | features are                            |   |
|                            |   |                            | Net                                     | J |
| 1 Collecting information 2 | Installing Windows  |                            |   |   |

22. 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**.

| License terms   | AC                                    | ~   |
|---|---------------------------------------|-----|
| MICROSOFT WINDOWS SERVER 2012   |                                       |     |
| These license terms are an agreement be   |                                       |     |
|   | utes the software with the server: or |     |
| the software installer that distribute  |                                       |     |
| Please read them. They apply to the soft<br>the media on which you received it, if an<br>Microsoft: | ware named above, which includes      |     |
| · updates,  |                                       |     |
| ✓ I accept the license terms  |                                       |     |
|   | N                                     | ext |
|   |                                       |     |

23. Select the installation type.

Select Custom: Install Windows only (advanced) in this case.



24. "Where do you want to install Windows?" window appears. If the driver was loaded in step 18 and 19, or if a RAID controller is not used, go to step 28.

If you select Load Driver, the following message appears.

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

 Select the destination, and then click OK. Specify the displayed drive as INTER-FLASH.

Onboard RAID Controller (LSI Embedded MegaRAID):

| \011\win\winnt\drive | rs\01 st | orage\1 | al 07 |
|----------------------|----------|---------|-------|
|                      |          |         |       |

| Tips | • When using an EXPRESSBUILDER DVD, replace the DVD media in step 24 and select the optical disk drive.  |
|------|--|
|      | <ul> <li>When using an onboard RAID controller, the driver can be loaded from the<br/>EXPRESSBUILDER DVD by using USB optical disk drive.</li> </ul> |
|      | <ul> <li>If INTER-FLASH label is not displayed, reboot the server, and then perform<br/>setup again from step 14.</li> </ul>                         |
|      |  |

26. Select the following driver from the driver list shown, and then click Next.

#### LSI Embedded MegaRAID

27. If you inserted the EXPRESSBUILDER DVD in Step 24, remove it, and then insert the OS installation media.

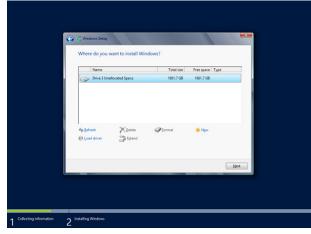


28. Create a partition to install an OS.

To create a partition, click **Drive options (advanced)**. If a partition has already been created, go to step 32.

| G                          | 🔏 Windows Setup<br>Where do you want to install Wini | dows?   |  |
|----------------------------|--|---|--|
|                            | Name Drive 3 Unallocated Space                       | Total size Free space   Type<br>1861.7 GB 1861.7 GB |  |
|                            | €# Editech € Load driver                             | Drive options (gehanced)                            |  |
|                            |  | Not   |  |
| 1 Collecting information 2 | Installing Windows                                   |   |  |

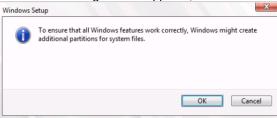
29. Click New.



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

| Name        | allocated Space | Total size<br>127.0 GB | Free space Type<br>127.0 GB |        |
|-------------|-----------------|------------------------|-----------------------------|--------|
|             |                 |                        |                             |        |
| Se Befresh  | Delete          | @Eormat                | * New                       | _      |
| Load driver | Estend          | Size: 130046           | MB Apply                    | Gancel |
|             |                 |                        |                             | Next   |





Tips
When creating a partition, the OS creates the following partitions at top of the hard disk drive.
– EFI System Partition (ESP)
– Microsoft Reserved Partition (MSR)

- 31. Select the partition created in step 30, and then click Format.
- 32. Select the created partition, and then click Next.

| Name                        |                       | Total size | Free space |                |
|-----------------------------|-----------------------|------------|------------|----------------|
|                             | Partition 1: Recovery | 300.0 MB   |            | Recovery       |
|                             | Partition 2           | 100.0 MB   | 95.0 MB    |                |
|                             | Partition 3           | 128.0 MB   |            | MSR (Reserved) |
| Drive D                     | ) Partition 4         | 278.4 GB   | 278.4 GB   | Primary        |
| €n Befresh<br>@ Load driver | Delete                |            | ∦ Ngw      |                |
|                             |                       |            |            | Net            |

Important If the four partition types Recovery, System, MSR (Reserved), and Primary have not been created in the created partition, it means that you failed to create the partition. Delete the partition you attempted to create, and then create a new partition. If you have connected a data disk to a partition, be careful not to delete that partition.

Tips

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

When the following message appears, Windows installation starts automatically.

| Your computer will restart several times. This might take a while.  |  |
|---|--|
| Copying Windows files (0%)<br>Getting files ready for installation<br>Installing features<br>Installing updates |  |
| Finishing up  |  |
|   |  |
|   |  |
|   |  |

33. The following screen appears according to the operating system selected in Step 21.

### Server with a GUI

Type a password and click Finish.

|                              |               | that you can use to sign in to this | computer. |
|------------------------------|---------------|-------------------------------------|-----------|
| User name<br>Password        | Administrator |                                     |           |
| Password<br>Reenter password | 1             | _                                   |           |
| Reenter passworu             |               |                                     |           |
|                              |               |                                     |           |
|                              |               |                                     |           |
|                              |               |                                     |           |
|                              |               |                                     |           |
|                              |               |                                     |           |
|                              |               |                                     |           |
|                              |               |                                     |           |
|                              |               |                                     |           |
|                              |               |                                     |           |

Press <Ctrl>+<Alt>+<Del> to sign-in.



Type the password and press <Enter>.



Windows Server 2012 R2 starts.

| Dashboard<br>Local Server | anager • Dashboa                                    | ırd   |            |                                  | • @ I | Manage | Tools |      | Help     |
|---------------------------|---|-------|------------|----------------------------------|-------|--------|-------|------|----------|
| Local Server              | WELCOME TO SERVER M                                 |       |            |                                  |       |        | Tools | VIEW | Help     |
|                           |   | ANAGE | R          |                                  |       |        |       |      |          |
| All Servers               |   | Co    | onfigure   | this local se                    | rver  |        |       |      |          |
|                           | QUICK START   | 2     | Add roles  | and features                     |       |        |       |      |          |
|                           | WHAT'S NEW  |       |            | r servers to mar<br>server group | nage  |        |       |      |          |
|                           | LEARN MORE  |       |            |                                  |       |        |       | Hide | •        |
|                           | ROLES AND SERVER GRO<br>Roles: 0   Server groups: 1 |       | : total: 1 |                                  |       |        |       |      |          |
|                           | Local Server  |       | 1 10       | All Servers                      | 1     |        |       |      |          |
|                           | Manageability                                       |       | 0          | Manageability                    |       |        |       |      |          |
|                           | Events  |       |            | Events                           |       |        |       |      |          |
|                           | Services Performance                                |       |            | Services<br>Performance          |       |        |       |      |          |
|                           | BPA results   |       |            | BPA results                      |       |        |       |      |          |
|                           |   |       |            |                                  |       |        |       | 86.  | 12:50 AN |

### Server Core Installations

| Click OK. |   |
|-----------|---|
|           |   |
|           |   |
|           |   |
|           | Administrator   |
|           | The user's password must be changed before<br>signing in. |
|           | OK Cancel   |
|           |   |
|           |   |
|           |   |
|           |   |
|           |   |
|           |   |
|           | H Windows Server 2012 R2                                  |
|           |   |

Type the new password.

| ¢ |                          | Administrator       |  |
|---|--------------------------|---------------------|--|
| 0 |                          | New password        |  |
|   |                          | Confirm password    |  |
|   |                          |                     |  |
|   |                          |                     |  |
|   |                          |                     |  |
|   |                          |                     |  |
|   |                          |                     |  |
|   |                          |                     |  |
| ф | - Wine                   | dows Server 2012 R2 |  |
|   | Conversion of the second |                     |  |

Click OK.

| Administrator<br>Your password has been changed<br>or |  |
|---|--|
| Windows Server 2012 R2                                |  |

Windows Server 2012 R2 starts

| <b>6</b>                  | Administrator: C:\Windows\system32\cmd.exe | - |   |
|---------------------------|--|---|---|
| ∝.<br>C:\Users\Administra |  |   | ^ |
|                           |  | ľ |   |
|                           |  |   |   |
|                           |  |   |   |
|                           |  |   |   |
|                           |  |   |   |
|                           |  |   |   |
|                           |  |   | ~ |

Tips

Refer to Microsoft Website for more details. Configure and Manage Server Core Installations http://technet.microsoft.com/us-en/library/jj574091.aspx

34. Install Starter Pack by referring to Chapter 1 (3.4 Installing Starter Pack).

Start EXPRESSBUILDER by either of the following two ways:

- Internal Flash Memory : 3.4.1 Installing Starter Pack after POST
- EXPRESSBUILDER DVD : 3.4.3 Using EXPRESSBUILDER DVD (Option)
- 35. See "Chapter 1 (3.5 Checking installation of EXPRESSBUILDER)" to confirm that EXPRESSBUILDER has been installed in Windows.
- 36. Install drivers and specify detailed settings by referring to Chapter 1 (3.6 Setting Up Device Drivers).
- 37. Confirm if Windows is activated according to Chapter 1 (3.7 License Authentication).
- 38. See Chapter 1 (3.8 Setup of Windows Server 2012 R2 NIC Teaming (LBFO)) to setup a team as needed.
- 39. Install the applications as needed by referring to Chapter 1 (3.9 Installing the Applications).
- 40. 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.

When Starter Pack is not installed on the server, in the case such as the server is set up using Windows Standard installer, be sure to apply Starter Pack before running the system.

| Important | Also install Starter Pack in the following cases.   |
|-----------|---|
|           | <ul> <li>The motherboard of the server has been replaced</li> </ul>                                 |
|           | (If a dialog box prompting you to reboot the system is displayed,                                   |
|           | reboot the system according to the on-screen instructions, and then apply the Starter Pack.)        |
|           | <ul> <li>If the system was restored using a restore process</li> </ul>                              |
|           | <ul> <li>If a system has been restored using the backup tool</li> </ul>                             |
|           | • After installing build-in options, you may need to install Starter Pack.                          |
|           | For detail, refer to Chapter 1(3.6 Setting Up Device Drivers).                                      |
|           |   |
| 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 Installing Starter Pack after POST

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

```
Note At this time, be sure to remove the DVD from the optical disk drive.
```

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

| DS installation **** default ****   |                         |   |
|---|-------------------------|---|
| Tool menu   |                         |   |
|   |                         |   |
|   |                         |   |
|   |                         |   |
|   |                         |   |
|   |                         |   |
|   |                         |   |
|   |                         |   |
|   |                         |   |
|   |                         |   |
|   |                         |   |
| Use the + and + keys to select<br>Press enter to boot the select<br>for a command-line. | which ent<br>ed OS, `e' | try is highlighted.<br>' to edit the commands before booting or `c' |

### The following window appears.



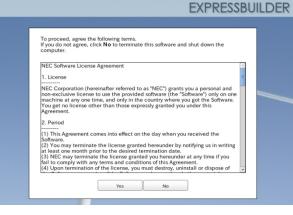
The server starts from EXPRESSBUILDER.



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



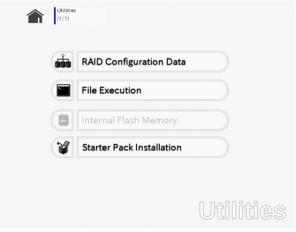
5. When the following screen appears, read the contents and click **Yes**.



6. Click Utilities.

| Setup                   |   |
|-------------------------|---|
| Move to Utilities Menu. | 8 |
|                         |   |
| C Exit                  |   |

7. Click Starter Pack Installation.



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

| Selection |                         |                   |   |  |
|-----------|-------------------------|-------------------|---|--|
| St        | arter Pack will be inst | alled on your Win | dows system. Proce<br>[ Message ID : P2 |  |
| 0         |                         |                   |   |  |
|           |                         |                   |   |  |
|           |                         |                   |   |  |
|           | Yes                     | No                |   |  |

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

|   | Copying Starter Pack is complete.  |
|---|--|
|   |  |
|   | Click <b>Close</b> to restart the computer.<br>To install Starter Pack, follow the message after logging on to |
|   | Windows.   |
| - |  |
|   | Run the following file on the system drive when installing with  |
|   | Server Core mode.  |
|   | [System Drive]:\StartPKG\app_pkg.bat   |
|   | [ Message ID : P1003 ]   |
|   |  |
|   |  |
|   |  |
|   |  |

The server then restarts. Do not press <F3> key and allow OS to start.

- 10. On Server Core installations, install Starter Pack following steps as below. On the server with a GUI, go to step 12.
  - (1) Enter the following command at the command prompt, and then open the folder under the system drive (drive C).

Cd /d C:\StartPKG

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

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

app\_pkg.bat

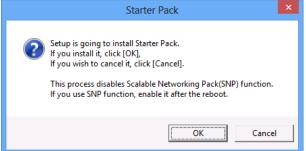
C:\StartPKG>**app\_pkg.bat** 

11. The following screen appears.

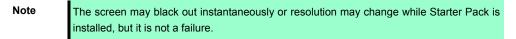
Starter Pack is in preparation for application. Wait for a while (about 1 to 3 minutes.)

Applying Starter Pack is in preparation. Please wait for a while.

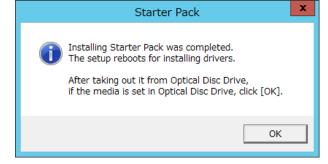




Wait until the installation of the Starter Pack is complete. (About 3 to 5 minutes)



13. Click OK to restart the system.

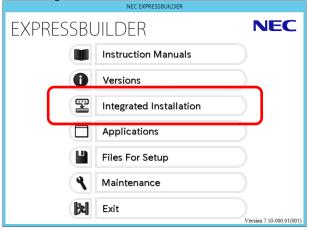


Installation of Starter Pack is now complete.

### 3.4.2 Installing Starter Pack using Windows Application

When EXPRESSBUILDER is installed on Windows, you can launch it as a Windows application. See Chapter 2 (3.5 Checking installation of EXPRESSBUILDER).

- 1. Sign-in to the system with the administrator account.
- 2. Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen.
- 3. Click Integrated Installation on the menu.



4. Select Starter Pack on the following screen, and then click Install.

| EXPRE | NEC  |          |               |       |
|-------|--|----------|---------------|-------|
|       | Integrated Installation  |          |               |       |
|       | Install the following software.<br>- Install Starter Pack prior to installing the application.<br>- Uninstall the application prior to reinstalling the application. |          |               |       |
|       | C Starter Pack   |          |               |       |
|       | NEC ESMPRO ServerAgentService  | Rev1.22  | Not installed |       |
|       | Express Report Service   | Rev3.5E  | Not installed |       |
|       | Express Report Service (HTTPS)   | Rev3.6   | Not installed |       |
|       | Microsoft .NET Framework Version 4.5.  | 2        | Not installed |       |
|       | Universal RAID Utility   | Rev4.10  | Not installed |       |
|       | Product Info Collection Utility  | Rev2.9.3 | Not installed |       |
|       | Ezclct Viewer  | Rev2.2.0 | Not installed |       |
|       | NEC ExpressUpdate Agent  | Rev3.18  | Not installed |       |
| 9     |  |          |               |       |
| k     |  |          | In            | stall |
|       |  |          |               |       |

5. See Step 12 and the subsequent steps in Chapter 1 (3.4.1 Installing Starter Pack after POST) for further procedure.

### 3.4.3 Using EXPRESSBUILDER DVD (Option)

When you use EXPRESSBUILDER DVD (option), follow the steps below.

#### Installation from Windows (Server with a GUI)

- 1. Sign-in to the system with the administrator account.
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. See Step 3 and the subsequent steps in Chapter 1 (3.4.2 Installing Starter Pack using Windows Application) for further procedure.

#### Installation from Windows (Server Core Installations)

- 1. From the command prompt, type the following command. In the example below, the optical disk drive is the D drive.
  - cd /d D:\011\win\winnt\bin C:\Users\administrator>cd /d D:\011\win\winnt\bin
- 2. Enter the following, and then press the <Enter> key.

pkgsetup.vbs

D:\011\win\winnt\bin>pkgsetup.vbs

Wait until installation completes (about 1 to 3 minutes).

Installation of Starter Pack is now complete.

## **3.5** Checking installation of EXPRESSBUILDER

Confirm that EXPRESSBUILDER has been installed in Windows.

#### (1) Server using GUI

 Click the shortcut on the desktop or select "NEC EXPRESSBUILDER" from the Windows start screen.

| The following scr | een is displayed.       |                          |
|-------------------|-------------------------|--------------------------|
| EXPRESSBL         |                         | NEC                      |
|                   | Instruction Manuals     |                          |
| Û                 | Versions                |                          |
| 2                 | Integrated Installation |                          |
|                   | Applications            |                          |
|                   | Files For Setup         |                          |
| ٩                 | Maintenance             |                          |
| ₽4                | Exit                    | Version 7.10-000.01(001) |

2. Click "Exit" to quit the menu.

Check is now complete.

#### (2) Server Core Installation

Enter the following at the command prompt and press the <Enter> key.
 eb\_cli.exe 'show /repository'

The following steps are not required when a folder path is displayed after "RepositoryPath=". Go to step 2 when the following message is displayed.

The repository has not been created. After creating the repository by "load /repository", please run again.

2. Enter the following at the command prompt and press the <Enter> key.

Wait for a while until the command is completed.

```
eb_cli.exe 'load /repository'
```

Check is now complete.

## **3.6** 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.

### 3.6.1 Installing the LAN drivers

### (1) LAN drivers

For the system that network adapter is connected, if it is setup with EXPRESSBUILDER, the LAN driver will automatically be installed.

For the system that network adapter is connected, if it is setup with Windows standard installer, apply StarterPack to install the LAN driver.

| Important | Wake On LAN (WOL) is supported by the standard network adapters only.<br>Wake On LAN will be able to be used in the state after the installation of the |
|-----------|---|
|           | Wake On LAN will be able to be used in the state after the installation of the  |
|           | LAN Driver. For BIOS settings, check the "User's Guide".  |
|           |   |
| Note      | • To change the LAN driver settings, sign in to the system from a local console   |

- To change the LAN driver settings, sign in 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.

I

Optional LAN boards: N8104-149/150/151/152/153

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

The LAN driver is not installed if N8104-149/153 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 N8104-149/153 LAN driver manually.

#### N8104-149

Note

When **QLogic Driver Installer** is shown to **Programs and Features**, this step is unnecessary.

1. Start command prompt and then open the folder under the system drive (drive C), enter the following file, and run the file.

```
C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers
\02_network\1_as_02\install_ws2012r2.bat
```

If using EXPRESSBUILDER, run the following file.

\011\win\winnt\drivers\02 network\1 as 02\install ws2012r2.bat

2. When the following message appears, restart the system.

**QLOGIC Driver Installation Completed!** 

 When LAN board is new addition, setting each LAN board by referring to Chapter 1(3.6.2 Setting up LAN drivers).

Setup is now completed.

#### N8104-153

Note

When Intel(R) Network Connections Drivers is shown to Programs and Features, this step is unnecessary.

1. Start command prompt and then open the folder under the system drive (drive C), enter the following file, and run the file.

C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers \02\_network\1\_ag\_01\install\_ws2012r2.bat

#### If using EXPRESSBUILDER, run the following file.

\011\win\winnt\drivers\02 network\1 ag 01\install ws2012r2.bat

2. When the following message appears, restart the system.

Intel Driver Installation Completed!

 When LAN board is new addition, setting each LAN board by referring to Chapter 1(3.6.2 Setting up LAN drivers).

Setup is now completed.

#### (3) Network adapter name

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

#### Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx (\*1)

#### If connecting with an optional LAN board:

[N8104-149] : QLogic BCM57810 10 Gigabit Ethernet (NDIS VBD Client) #xx (\*1)

[N8104-150/151/152] : Broadcom NetXtreme Gigabit Ethernet #xx (\*1)

[N8104-153] : Intel(R) Ethernet Controller X540-AT2 #xx (\*1)

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

Tips

The ID for N8104-149 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.

#### 3.6.2 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

When using N8104-149, you can specify "10 Gb Full" for network adapter and "Auto Negotiation" to switching hub.

- 1. Open the Device Manager.
- 2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to configure. 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.
- 5. Restart the system.

The link speed setting is now complete.

#### (2) When using N8104-150/151/152

When using N8104-150/151/152 with the server, follow the procedure below to set it.

1. Run the following file on the system drive (drive C).

C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers \02\_network\1\_ah\_02\pgdyavd\_disable.vbs

If using EXPRESSBUILDER DVD (option), run the following file on the DVD.

\011\win\winnt\drivers\02\_network\1\_ah\_02\pgdyavd\_disable.vbs

2. When the following message appears, click OK.



Tips

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

3. Restart the system.

Setup is now completed.

#### *3.6.3* 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.

Tips

In Server Core environment, the graphics accelerator driver is not installed automatically. Install it by the procedures described below.

To install drivers separately, take the following steps.

- 1. Double-click the install.bat icon in the following folder.
  - If Starter Pack was installed from Internal Flash Memory:
     C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers
     \03\_graphics\1\_aj\_02\install.bat
  - When using EXPRESSBUILDER DVD: \011\win\winnt\drivers\03\_graphics\1\_aj\_02\install.bat
- 2. You will be prompted to confirm the End User License Agreement during this process. Click the **ACCEPT** button to continue.
- 3. Restart the system.

Graphic accelerator driver installation is now complete.

#### *3.6.4* When a graphics accelerator card of the option is used

When a graphics accelerator card of the option is equipped, please check the contents of bundled Startup Guide/User's Guide of a graphics accelerator card.

#### *3.6.5* When using a SAS controller (N8103-142/184)

The driver for SAS controller N8103-142/184 is automatically installed by Windows Plug-and-Play.

#### *3.6.6* When using a RAID Controller (N8103-176/177/178/179/188)

The driver for RAID Controller N8103-176/177/178/179/188 is automatically installed by Windows Plug-and-Play.

#### 3.6.7 When using a Fibre Channel controller (N8190-157A/158A/159/160)

The driver for Fibre Channel controller N8190-157A/158A/159/160 is automatically installed by Windows Plug-and-Play.

If Fibre Channel controller (N8190-157A/158A/159/160) is additionally installed after the OS has been installed, you need install Starter Pack again.

# **3.7** License Authentication

To use Windows Server 2012 R2, you need finish the license authentication procedure.

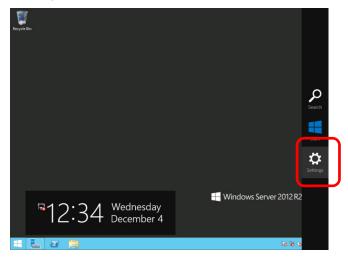
Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

Connect to the Internet to perform the authentication procedure.

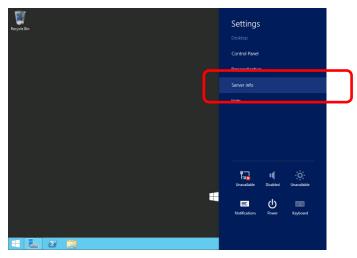
Or, use the telephone to perform the authentication procedure.

#### (1) Server with a GUI

1. Click Settings on the Charms bar.



2. Click Server info.



- 3. Check Windows license authentication.
  - If "Windows is activated" is displayed:
     You do not need to perform this procedure.
  - □ If "Windows is not activated" is displayed:
    - When the server is connected to the Internet: Go to step 4.When the server is not connected to the Internet: Go to step 6.

| Control Panel Home       | View basic information                | about your computer                    |                                     |
|--------------------------|---------------------------------------|--|-------------------------------------|
| Device Manager           | Windows edition                       |  |                                     |
| Remote settings          | Windows Server 2012 R2 X              |  |                                     |
| Advanced system settings | © 2013 Microsoft Corpora<br>reserved. | tion. All rights 🛛 🚛 🕅                 | /indows Server <sup>,</sup> 2012 R2 |
|                          | System                                |  |                                     |
|                          | Processor:                            | Intel(R) Core(TM) i3 CPU               | 540 @ 3.07GHz 3.06 GHz              |
|                          | Installed memory (RAM):               | 512 MB (512 MB usable)                 |                                     |
|                          | System type:                          | 64-bit Operating System, x             | 64-based processor                  |
|                          | Pen and Touch:                        | No Pen or Touch Input is a             | vailable for this Display           |
|                          | Computer name, domain, and            | workgroup settings                     |                                     |
|                          | Computer name:                        | XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | 😵 Change settings                   |
|                          | Full computer name:                   | XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX |                                     |
|                          | Computer description:                 |  |                                     |
|                          | Workgroup:                            | WORKGROUP                              |                                     |
| (                        | Windows activation                    |  |                                     |
|                          | Windows is not activated.             | Read the Microsoft Software            | License Terms                       |
| See also                 | Product ID: 00000-00000-0             | 0000-00000                             | Activate Windows                    |

#### 4. Click Activate Windows

| Computer name:          | ^^^^   | Trange settings |  |  |
|-------------------------|--|-----------------|--|--|
| Full computer name:     | XXXXXXXXXXXXXXXXXX                           |                 |  |  |
| Computer description:   |  |                 |  |  |
| Workgroup:              | WORKGROUP                                    |                 |  |  |
| Windows activation      |  |                 |  |  |
| Windows is not activate | d. Read the Microsoft Software License Terms |                 |  |  |
| Product ID: 00000-0000  | Product ID: 00000-00000-00000                |                 |  |  |

#### 5. Enter the product key.

| Recycle Bin |  |
|-------------|--|
|             |  |
|             | Enter a product key<br>Your product key should be on the box that the Windows DVD came in or in an email that shows you<br>booth Windows |
|             | The product key looks similar to this:<br>PRODUCT KEY: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  |
|             | Product key<br>Dashes will be added automatically  |
|             |  |
|             | Windows Server 2012 R2   |
|             | - 127M   |
| 🖶 📥 🖉       | 2/2/2013 12/2/2013   |

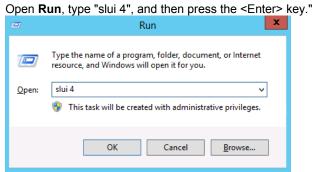
License is activated after entering the product key.

Complete license authentication process according to the message.

6. When the server is not connected to the Internet, launch the command prompt with an administrator right, enter the following command.

slmgr /ipk <product key>

7. Activate your license by phone.



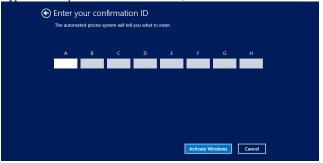
8. On the next screen, select your country, and then click Next.

| Select your country or region |      |        |  |
|-------------------------------|------|--------|--|
| Afghanistan 🗸                 |      |        |  |
|                               |      |        |  |
|                               |      |        |  |
|                               |      |        |  |
|                               |      |        |  |
|                               |      |        |  |
|                               | Next | Cancel |  |

Acquire the installation ID required for license activation

| Toll free:<br>not available           Tol:<br>(97) (4) 917 000           Installation ID:           1         2         3         4         5         6         7         8         9           1         2         3         4         5         6         7         8         9           add our provide optimized optimizer         add our privacy statement;         4         5         6         7         8         9 |            |          |         |         |         |         |         |         | lation ID (II<br>tries or regi |  |
|--|------------|----------|---------|---------|---------|---------|---------|---------|--------------------------------|--|
| (971) (4) 391 7000<br>Installation ID:<br>1 2 3 4 5 6 7 8 9<br>0000000 0000000 0000000 0000000 0000000   |            | ble      |         |         |         |         |         |         |                                |  |
| 1 2 3 4 5 6 7 8 9<br>0000000 0000000 0000000 0000000 0000000   |            | 191 7000 |         |         |         |         |         |         |                                |  |
| 0000000 0000000 0000000 0000000 0000000  | Installati | on ID:   |         |         |         |         |         |         |                                |  |
|  |            |          |         |         |         |         |         |         |                                |  |
|  | 0000000    | 0000000  | 0000000 | 0000000 | 0000000 | 0000000 | 0000000 | 0000000 | 0000000                        |  |
|  |            |          |         |         |         |         |         |         |                                |  |

9. Call the Microsoft license activation hotline and then tell your installation ID. Type the acquired confirmation ID, and then click **Activate Windows**.



#### (2) Server Core installation

- 1. Confirm if your license is activated.
  - At the command prompt, enter the following, and then press <Enter> key.

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-ROM:

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 R2 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 to get an Install ID for authentication, and then press the <Enter> key.

C:\Users\administrator>slmgr -dti

Acquire the installation ID required for license activation.

Refer to the file %systemroot%\system32\sppui\phone.inf 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 line, and then press the <Enter> key.

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

This completes authentication.

# **3.8** Setup of Windows Server 2012 R2 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.

1. 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.
- 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.   |
| Dynamic      | <ul> <li>Distributes the load based on IP addresses and port numbers in sending.</li> <li>Distributes the load same to "Hyper-V Port" in receiving.</li> </ul> |

#### 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.
- Teaming of virtual NICs on the host OS is not supported in the Hyper-V environment.
- When STP (Spanning Tree Protocol) is enabled on network switch ports to which network adapters of the team are connected, network communications may be disrupted. Disable STP, or configure "PortFast" or "EdgePort" to the ports.
  - \* About setting the network switch of the connection destination, see the manual of the network switch.
- All NICs in the team must be connected to the same subnet.
- Teaming of different speed NICs is not supported.
- Teaming of different vendor's NICs is not supported.

Refer to the following website for the latest information.

http://www.58support.nec.co.jp/global/download/w2012r2/index.html

- [Technical Information] - [NIC Teaming (LBFO)]

# **3.9** Installing the Applications

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.
- Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen. Or, Insert the EXPRESSBUILDER DVD (option) into the optical disk drive.
- 3. Click Integrated Installation on the menu.

|           | NEC EXPRESSBUILDER      |                          |
|-----------|-------------------------|--------------------------|
| EXPRESSBL | JILDER                  | NEC                      |
|           | Instruction Manuals     | $\supset$                |
|           | Versions                |                          |
| Ŧ         | Integrated Installation |                          |
|           | Applications            |                          |
|           | Files For Setup         | $\supset$                |
| ٩         | Maintenance             | $\supset$                |
| 1×1       | Exit                    | Version 7.10-000.01(001) |

4. Select **Applications**, select the check boxes corresponding to the applications to be installed, and then click **Install**.

The selected applications are automatically installed.

| EXPRESSBU   | ILDER   |  |   | NEC         |            |           |          |          |                |
|---|---|--|---|-------------|------------|-----------|----------|----------|----------------|
| Integ   | rated Installation  |  |   |             |            |           |          |          |                |
| - Install<br>- Uninst   | he following software.<br>Starter Pack prior to installing the<br>tall the application prior to reinstall   |  | tion.   |             |            |           |          |          |                |
| C Starte  |   |  |   |             |            |           |          |          |                |
| NEC     Exp     Exp     Fexp     Vnic     Vnic     Vnic     Pro     Fexp     Exp     Fexp     Fex | C ESMPRO ServerAgentService<br>ress Report Service<br>ress Report Service (HTTPS)<br>rooft. NET Framework Version 4.5.2<br>versal RAID Utility<br>duct Info Collection Utility<br>duct Info Collection Utility<br>dct Viewer<br>ExpressUpdate Agent | Rev1.22<br>Rev3.5E<br>Rev3.6<br>Rev4.10<br>Rev2.9.3<br>Rev2.2.0<br>Rev3.18 | Not installed<br>Not installed<br>Not installed<br>Not installed<br>Not installed<br>Not installed<br>Not installed |             |            |           |          |          |                |
| ۲<br>اها  |   |  | Insta   | II          |            |           |          |          |                |
|   |   |  |   |             |            |           |          |          |                |
|   | Note  | Applic   | cations availat   | ole for ins | stallatior | n are sel | ected by | default. |                |
|   |   |  |   |             |            |           |          |          | an application |

- 5. When a message indicating reboot appears, click OK to reboot the server.
- 6. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.

Now installation of applications is completed.

# **3.10** 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 used for setup, if the server has two or more RAID                          |
|           | Controllers installed.   |
|           | <ul> <li>Disconnect an external disk (*) from the server by turning the power of it off</li> </ul> |
|           | or disconnecting cables. Install those hard disk drives and cables after                           |
|           | setup has completed. Conducting setup with those being connected with                              |
|           | the server may cause existing data to be erased unintentionally.                                   |
|           | * Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit                     |

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.
  - 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.

| <u>ipport.microsoft.com/kb/937251/en-us</u>   |
|---|
| nnot edit the drive letters for the system volume or boot volume<br>tup is complete. Make sure that the drive letters assigned in this<br>are correct, and then proceed with setup. |
| •   |

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

Tips

I

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. However, these steps cannot change drive letter assignments for the system volume or boot volume.

- 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 Assign next drive letter, and then select the drive letter you want to assign.
- 5. Click OK.
- 6. Close the Server Manager.

# 4. Setting Up Windows Server 2012

Set up Windows Server 2012.

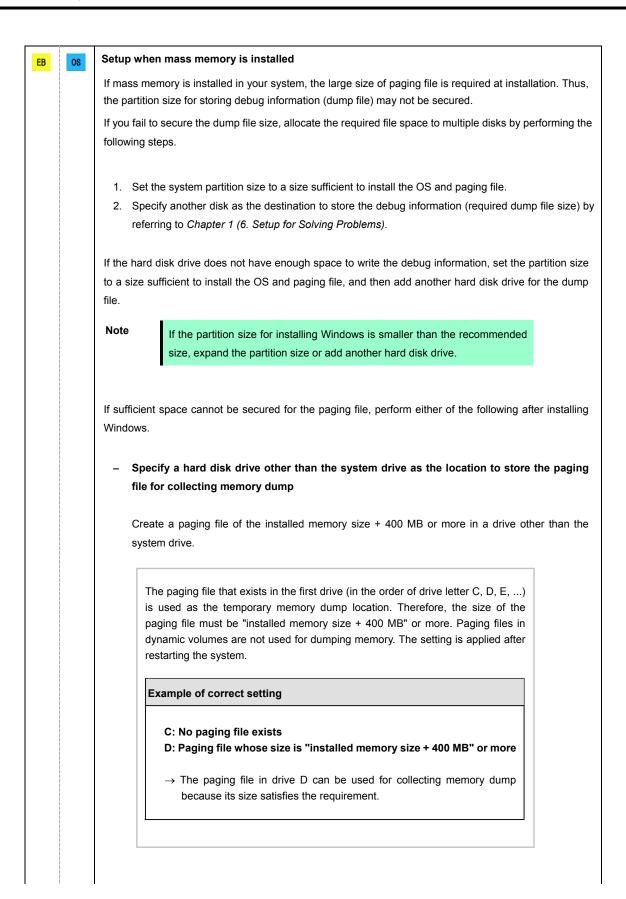
# **4.1** Before Starting Setup

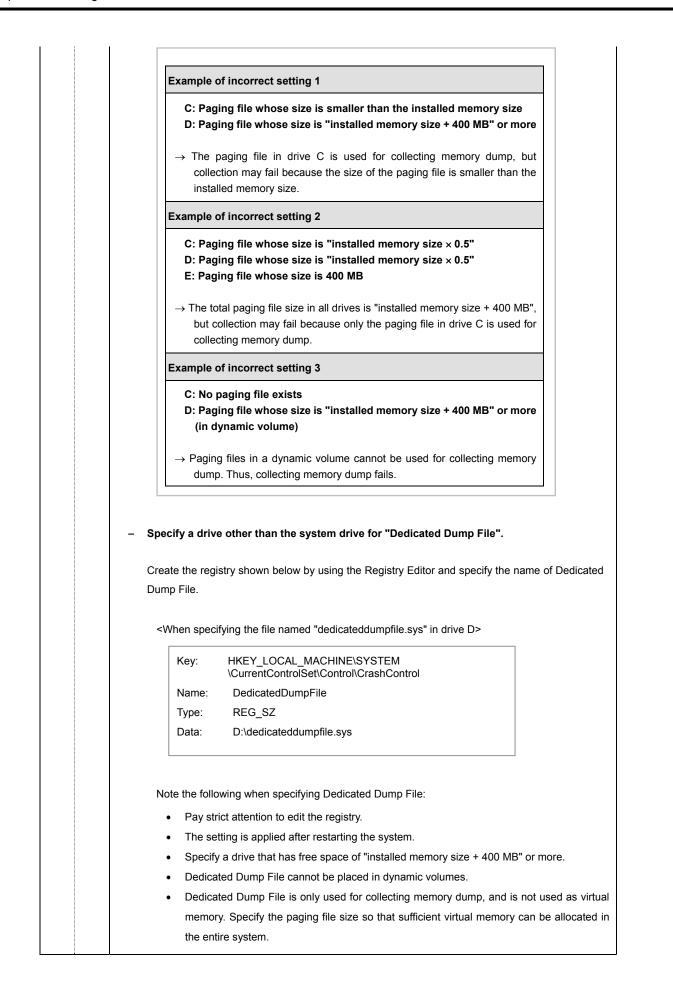
Read through the cautions explained here before starting setup.

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

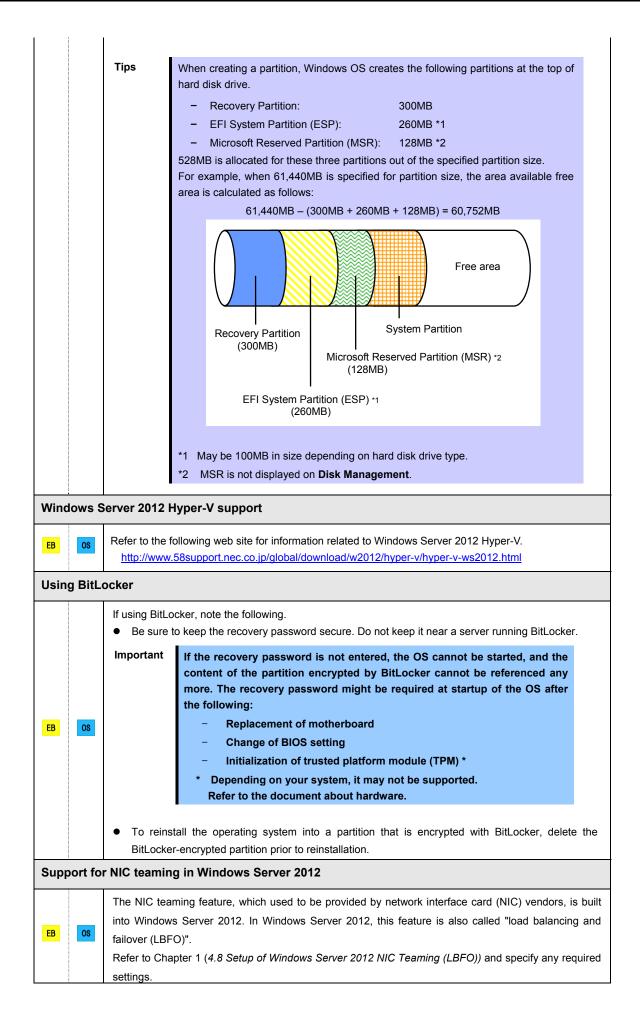
| BIO | S settir | g  |   |  |  |  |  |  |  |  |
|-----|----------|--|---|--|--|--|--|--|--|--|
| EB  | 08       | Change Boot Mode to UEFI Mode.<br>See Chapter 2 (1. System BIOS) in Maintenance Guide for details.<br>Boot $\rightarrow$ Boot Mode $\rightarrow$ UEFI  |   |  |  |  |  |  |  |  |
| EB  | OS       | Select <b>Enabled</b> for X2APIC feature of processor. See <i>Chapter 2 (1. System BIOS)</i> in <i>Maintenance Guide</i> for details.<br><b>Advanced</b> $\rightarrow$ <b>Processor Configuration</b> $\rightarrow$ <b>X2APIC</b> $\rightarrow$ <b>Enabled</b> |   |  |  |  |  |  |  |  |
|     |          | At re-installation, open <b>Boot Option Priorities</b> in BIOS SETUP to make sure that the higher boot priority than <b>Windows Boot Manager</b> is specified for optical disk drive.  |   |  |  |  |  |  |  |  |
|     |          | [Boot]–[Boot Option Priorities]<br>– Boot Option #1 [UEFI: Optical Disk Drive]<br>– Boot Option #2 [Windows Boot Manager]<br>→ The system can boot from OS installation media.   |   |  |  |  |  |  |  |  |
| EB  | 08       | Example of incorrect setting         [Boot]–[Boot Option Priorities]         – Boot Option #1 [Windows Boot Manager]         – Boot Option #2 [UEFI: Optical Disk Drive]         → The system cannot boot from OS installation media.                          |   |  |  |  |  |  |  |  |
|     |          | <ul> <li>Note</li> <li>Before opening BIOS SETUP, be sure to insert OS installation media into optical disk drive.</li> <li>If Windows Boot Manager is not displayed in Boot Option Priorities, you need not to confirm the boot priority.</li> </ul>          | D |  |  |  |  |  |  |  |

| Hard | ware o | configuration  |
|------|--------|--|
|      |        | The following hardware configurations require special procedures.  |
| EB   | OS     | Reinstalling to a mirrored volume<br>When you install Windows Server 2012 in an environment with a mirrored volume created using<br>Windows, disable mirroring before installing the operating system and enable it again after the<br>installation. Use <b>Computer Management – Disk Management</b> to create, disable, or remove the<br>mirrored volume.  |
| EB   | OS     | <b>Peripheral devices such as RDX/MO</b><br>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, or similar media<br>Do not set any media such as DAT or LTO during setup.  |
| EB   | 08     | Installing in internal or external multiple logical drives<br>For details on installing operating systems to a system in which two or more RAID Controller exist, or to<br>an external disk drive* that is not subject to setup, refer to <i>Chapter 1 (4.10 Installation When Multiple<br/>Logical Drives Exist)</i> .<br>* Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit. |
| EB   | OS     | Reinstalling to hard disk drives that have been upgraded to dynamic disks<br>If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be<br>reinstalled to it with the existing partitions.<br>Set up the operating system with the Windows standard installer.   |





| The                | system partition size can be calculate   | d by using the following formula.   |
|--------------------|--|---|
| Size               | e required to install the OS + paging f  | le size + dump file size + application size   |
| Ser                | rver with a GUI  |   |
|                    | Size required to install the OS  | = 9,400MB   |
|                    | Paging file size (recommended)   | = installed memory size × 1.5   |
|                    | Dump file size   | = installed memory size + 400MB   |
|                    | Application size   | = as required by the application  |
| Ser                | rver Core installations  |   |
|                    | Size required to install the OS  | = 6,300MB   |
|                    | Paging file size (recommended)   | = installed memory size × 1.5   |
|                    | Dump file size   | = installed memory size + 400MB   |
|                    | Application size   | = as required by the application  |
|                    | example, if the installed memory size<br>a GUI is selected, the partition size is  | is 1 GB (1,024 MB), application size is 100MB, and Sen<br>calculated as follows:  |
| ~                  |  |   |
| 9                  | ),400MB + (1,024MB × 1.5) + 1,024MI  | 3 + 400MB + 100MB   |
| =<br>The a         | above mentioned partition size is th   | e minimum partition size required for system installation   |
| =<br>The a<br>Ensu | above mentioned partition size is the re that the partition size is sufficient for following partition sizes are recommer  | e minimum partition size required for system installation<br>r system operations.<br>ded.   |
| =<br>The a<br>Ensu | above mentioned partition size is the re that the partition size is sufficient for following partition sizes are recomment <b>Server with a GUI</b>  | e minimum partition size required for system installation<br>r system operations.<br>ded.<br><b>32,768MB(32GB) or more</b>  |
| =<br>The a<br>Ensu | above mentioned partition size is the re that the partition size is sufficient for following partition sizes are recomment <b>Server with a GUI</b>  | e minimum partition size required for system installation<br>r system operations.<br>ded.   |
| =<br>The a<br>Ensu | <ul> <li>12,460MB</li> <li>above mentioned partition size is the re that the partition sizes is sufficient for solution of the partition sizes are recommented.</li> <li>Server with a GUI :</li> <li>Server Core installations :</li> <li>*1 GB = 1,024 MB</li> <li>The above paging file size (dump file). The initial size enough to store dump files. Make sure you set a sufficient will be a virtual memory structed bug information.</li> </ul> | e minimum partition size required for system installation<br>r system operations.<br>ded.<br>32,768MB(32GB) or more<br>32,768MB(32GB) or more<br>se are recommended for collecting debug information<br>se of the Windows partition paging file must be large |



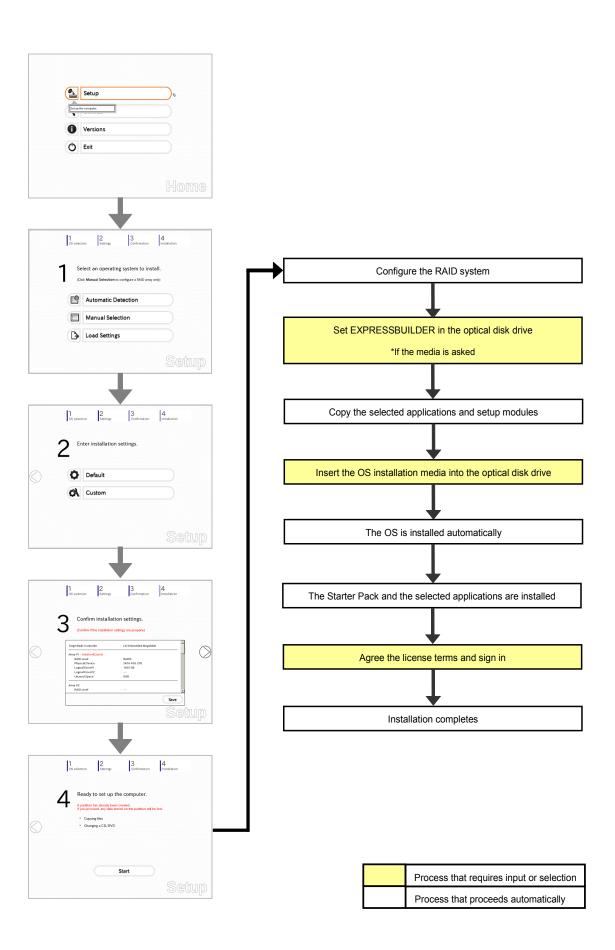
# **4.2** Setup with EXPRESSBUILDER

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 | <ul> <li>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:         <ul> <li>RAID settings</li> <li>Partition Settings</li> <li>Partition Settings</li> </ul> </li> <li>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.</li> </ul> |
|-----------|---|
| Note      | <ul> <li>The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER.<br/>The setting of SNP function may affect the system performance.<br/>Contact your sales representative for details.</li> <li>When using an onboard RAID controller (LSI Embedded MegaRAID):<br/>Do not support the creation of RAID10 by using the onboard RAID controller.<br/>Refer to Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when creating RAID10.</li> </ul>   |
| Tips      | <ul> <li>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.</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7 . Windows OS Parameter File)</i>.</li> </ul>   |

### 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 2012 DVD-ROM)
- Either of the following EXPRESSBUILDER
  - Internal Flash Memory
  - EXPRESSBUILDER DVD (Option)
- Prepare if needed:
  - Removable media for Windows OS parameter file

Tips

This server allows you to launch EXPRESSBUILDER from Internal Flash Memory and install an OS without using EXPRESSBUILDER DVD.

#### 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.

|   | GNU GRUB     | version 2.00                               |
|---|--------------|--|
| OS installation *** default ***<br>Tool menu  |              |  |
|   |              |  |
|   |              |  |
|   |              |  |
|   |              |  |
|   |              |  |
| Use the + and + keys to selec<br>Press enter to boot the selec<br>for a command-line.<br>The highlighted entry will be ex | cted OS, `e' | to edit the commands before booting or `c' |

The following window appears.



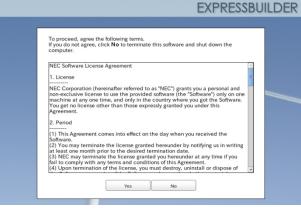
The server starts from EXPRESSBUILDER.



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



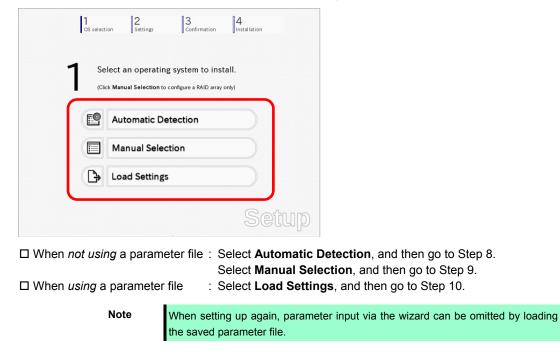
5. When the following screen appears, read the contents and click Yes.



6. Click Setup.

| Set up the comp |        | <br>)£ |
|-----------------|--------|--------|
|                 | rsions |        |
| () Exi          | :      |        |

7. On the OS selection menu, select the OS to install or specify the parameter file.



8. When *not using* a parameter file, let the OS on the installation media be recognized by using the following procedure.

8-(1) Click Automatic Detection.

| 1 Si Selection   | 2 3<br>ettings Confirmation                                   | 4<br>Installation |
|--|---|-------------------|
|  | perating system to inst<br>election to configure a RAID array |                   |
| Select an operating sys<br>automatically with an ir<br>disc. | terminatic Detection  | e e               |
| Load S   | Settings  |                   |
|  |   | Setup             |

8-(2) Insert the OS installation media, and then click **OK**.

|   | Insert the OS installat<br>EXPRESSBUILDER wil | you want to ir | stall.         |
|---|---|----------------|----------------|
|   |   | [ Messag       | e ID : B2014 ] |
| 3 |   |                |                |
|   |   |                |                |
|   |   |                |                |
|   |   |                |                |

8-(3) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 11.

| S  | elect an operating system              | to install.     |
|----|--|-----------------|
| (C | lick Manual Selection to configure a R | AID array only) |
| E  | Automatic Detection                    |                 |
|    | Manual Selection                       |                 |
| •  | Load Settings                          |                 |

- 9. When not using a parameter file, select an OS by using the following procedure.

  - 9-(2) From the pull-down menu, select Windows Server 2012, and then click OK.

|   | Select an operatin | g system to install. |   |
|---|--------------------|----------------------|---|
|   | Windows            | Windows Server 2012  | • |
| 9 | O RAID Configu     | uration Only         |   |
|   |                    |                      |   |
|   |                    |                      |   |
|   |                    |                      |   |

| 9-(3) | Click 🛇 |     |              | of the scree                                  |    | o step 11. |
|-------|---------|-----|--------------|---|----|------------|
|       |         |     |              | ng system to insi<br>o configure a RAID array |    |            |
|       |         | e / | Automatic De | etection                                      |    | $\bigcirc$ |
|       | ,       |     | Manual Sele  | ction   |    |            |
|       |         | B   | oad Setting  | s   |    |            |
|       |         |     |              |   | Se | tup        |

- 10. When using the parameter file, load the parameter file by using the following procedure.

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

|               |             | Choosing a File   |  | ×         |                |            |  |
|---------------|-------------|---|--|-----------|----------------|------------|--|
| 📄 🖃 mnt u     | usr_connect |   |  |           |                |            |  |
| Places        | Name        |   | ✓ Size Mod   | fied      |                |            |  |
| 🚔 Search      | 🛅 cdrom1    |   | 05/0   | 3/2014    |                |            |  |
| Recently Used |             |   |  |           |                |            |  |
| 🛅 root        |             |   |  |           |                |            |  |
| File System   |             |   |  |           |                |            |  |
| Documents     |             |   |  |           |                |            |  |
| Music         |             |   |  |           |                |            |  |
| Pictures      |             |   |  |           |                |            |  |
| Tideos        |             |   |  | =         |                |            |  |
| Downloads     | 8           |   |  |           |                |            |  |
|               |             |   |  |           |                |            |  |
|               |             |   |  |           |                |            |  |
|               |             |   |  |           |                |            |  |
|               |             |   |  |           |                |            |  |
|               |             |   |  |           |                |            |  |
| Add Remove    |             |   |  |           |                |            |  |
|               |             |   |  |           |                |            |  |
|               |             |   | Cancel   | Open      |                |            |  |
|               |             |   |  |           |                |            |  |
|               |             |   |  |           |                |            |  |
|               | Tins        | For the removable   | e media in whic  | the naram | otor filo is : | age haves  |  |
|               | Tips        | For the removable   |  |           |                | saved, see |  |
|               | Tips        | For the removable<br>"/mnt/usr_conne                                      |  |           |                | saved, see |  |
|               | Tips        |   |  |           |                | saved, see |  |
|               | Tips        |   |  |           |                | saved, see |  |
|               |             | "/mnt/usr_conne   | e <b>ct/usb*"</b> (* indio                                 |           |                | saved, see |  |
|               |             |   | e <b>ct/usb*"</b> (* indio                                 |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conne   | ect/usb*" (* indie<br>reen.                                |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conne   | ect/usb*" (* indie<br>reen.                                |           |                | saved, see |  |
|               |             | "/mnt/usr_conne   | ect/usb*" (* indie<br>reen.                                |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conne   | ect/usb*" (* indie<br>reen.                                |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conne<br>ght side of the scr<br>2<br>Settings 3<br>Confirmatio  | e <b>ct/usb*" (* indic</b><br>reen.<br>n [4]               |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conne   | e <b>ct/usb*" (* indic</b><br>reen.<br>n [4]               |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conner<br>ght side of the scr<br>2<br>settings 3<br>confirmatio | e <b>ct/usb*" (* indic</b><br>reen.<br>n 4<br>Installation |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conne<br>ght side of the scr<br>2<br>Settings 3<br>Confirmatio  | e <b>ct/usb*" (* indic</b><br>reen.<br>n 4<br>Installation |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conner<br>ght side of the scr<br>2<br>settings 3<br>confirmatio | e <b>ct/usb*" (* indic</b><br>reen.<br>n 4<br>Installation |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conne<br>ght side of the scr<br>2<br>Settings 3<br>Confirmatio  | e <b>ct/usb*" (* indic</b><br>reen.<br>n 4<br>Installation |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conner<br>ght side of the scr<br>2<br>settings 3<br>confirmatio | e <b>ct/usb*" (* indic</b><br>reen.<br>n 4<br>Installation |           |                | saved, see |  |
|               | on the rig  | "/mnt/usr_conne<br>ght side of the scr<br>2<br>Settings 3<br>Confirmatio  | e <b>ct/usb*" (* indic</b><br>reen.<br>n 4<br>Installation |           |                | saved, see |  |

✓ □

Load Settings

10-(4) When the parameter file is correctly loaded, click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 14.

Click **Custom** to check and modify the setting in the wizard.  $\rightarrow$  Go to step 13-(1).

| 2 | 2 ≞  | nter installation setting | S. |   |
|---|------|---------------------------|----|---|
|   | 0    | Default                   |    | ( |
| • | < 01 | Custom                    |    |   |

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

□ When selecting **Default** : Go to Step 12.
 □ When selecting **Custom** : Go to Step 13.

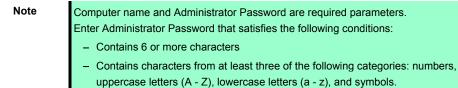
| E | nter installation settings. |  |
|---|-----------------------------|--|
|   |                             |  |
| 0 | Default                     |  |
|   | Custom                      |  |

12. Click Default.

|            | 1<br>OS selection 2<br>Settings  | 3<br>Confirmation | 4<br>Installation |
|------------|--|-------------------|-------------------|
|            | 2 Enter installation   | settings.         |                   |
| $\bigcirc$ | Default  |                   | Ð                 |
|            | Specify minimum settings for the installation. Default values are used for other settings. |                   |                   |
|            |  |                   | Setup             |

12-(1) Select the edition of the OS to install from the pull-down menu. Type the password, and then click **Finish**.

| -   | erating system        | : Windows Sen | ver 2012          |   |            |
|-----|-----------------------|---------------|-------------------|---|------------|
| Edi |                       |               |                   |   |            |
|     | ition                 | : Standard(Se | erver with a GUI) | 0 |            |
| Lar | nguage                | : English     | 0                 |   |            |
| -Pa | ssword Settings-      |               |                   |   |            |
|     | Administrator Pass    | word          |                   |   | (Required) |
|     | Reenter Administra    |               |                   |   | (Required) |
|     | inconter / tanini str | 1011103511010 | · L               |   | (qui esty  |
|     |                       |               |                   |   |            |
|     |                       |               |                   |   |            |



12-(2) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 14.

|            | 1<br>OS select | ion 2<br>Settings | 3<br>Confirmation | 4<br>Installation |            |
|------------|----------------|-------------------|-------------------|-------------------|------------|
|            | 2 "            | iter installation | settings.         |                   |            |
| $\bigcirc$ | <b>~ Q</b>     | Default           |                   |                   | $\bigcirc$ |
|            | 3              | Custom            |                   |                   |            |
|            |                |                   |                   |                   |            |
|            |                |                   |                   | Set               | :up        |

13. Click Custom.

|            | 1 2 3<br>OS selection Settings Conf | irmation |
|------------|-------------------------------------|----------|
|            | 2 Enter installation settings.      |          |
| $\bigcirc$ | Default                             |          |
|            | Specify all settings for the        | <i>s</i> |
|            |                                     | Setup    |

#### 13-(1) Use this menu to configure the RAID system and logical drives as needed.

| RAID Controller                                      | <br>Detail  |
|--|-------------|
| Number of Physical Drives                            | Detail      |
| Summary of RAID Array                                |             |
| Array #1<br>RAIDO (1disk)<br>Logical Drive1 (1117GB) | -           |
|  |             |
| RAID Configuration                                   |             |
|  | 1 / 11 Page |
| Next   | Cancel      |

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 Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when creating RAID10.

#### 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.

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

Choose Install Windows using EXPRESSBUILDER, and then click Next.

| Г | Basic Settings    |                   |                       |         |             |
|---|-------------------|-------------------|-----------------------|---------|-------------|
|   | Operating system  | : w               | indows Server 2012    |         |             |
|   | O Use Windows sta | ndard installer   |                       |         | 0           |
| ſ | □                 | sing EXPRESSBUILD | DER                   |         |             |
|   | Edition           | : Standard(S      | erver with a GUI)     | 0       |             |
|   | Language          | : English         | 0                     |         |             |
|   | Time Zone         | : (UTC-08:0       | 0) Pacific Time (US & | Canada) | 0           |
|   |                   |                   |                       |         |             |
|   |                   |                   |                       |         |             |
|   |                   |                   |                       |         | 4 / 11 Page |

| 13-(3) | Check the settings specified for <b>Partition Settings</b> . |
|--------|--|
|        | Modify the settings as needed, and then click Next.          |

| Win | cify the settings of the<br>dows will be installed i<br>data currently on an exi   | nto the first hard dis                 | sk drive or logical dri |   |
|-----|--|--|-------------------------|---|
| l   | rent Partitions (the area sh<br>D 06(PAT32) 10 07(n)<br>(0.368) (Total-4<br>Partition Settings<br>Create a new partit<br>O Use all space<br>Type a partiti | ITFS) Data Partition<br>0.3GB) (0.1GB) | (1076GB)                | *1TB=1024GB<br>d: 40GB / Maximum: 1116GB) |
|     |  |  |                         | 5 / 11 Page                               |
|     |  | Next                                   |                         | Cancel                                    |

Important • 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 entire contents of the hard disk drive will be deleted.

13-(4) Enter the user information, and then click **Next**.

| Personalize the computer.<br>Type <b>Computer Name</b> within 15 charac<br><b>Administrator Password</b> must be at leas<br>three of the four categories (numbers/upp | st six chara | acters in length and m<br>vercase/symbols). | ust contain characters from |
|---|--------------|---|-----------------------------|
| User Information  |              |   |                             |
| Computer Name   | : 🗹 A        | utomatic Numbering                          |                             |
|   | BD4          | 394570815                                   | (Required)                  |
| User Name   | : Adm        | inistrator                                  |                             |
| Administrator Password  | :            |   | (Required)                  |
| Reenter Administrator Password  | :            |   | (Required)                  |
|   |              |   | 6 / 11 Page                 |
| Back Next   |              |   | Cancel                      |

| Note | Computer name and Administrator Password are required parameters.<br>Enter Administrator Password that satisfies the following conditions:<br>– Contains 6 or more characters                             |
|------|---|
|      | <ul> <li>Contains characters from at least three of the following categories: numbers,<br/>uppercase letters (A - Z), lowercase letters (a - z), and symbols.</li> </ul>                                  |
|      |   |
| 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.               |
|      | <ul> <li>If a parameter file is used for setup or if you return to a previous screen, •••••• is<br/>displayed in the Administrator password and Reenter Administrator password<br/>text boxes.</li> </ul> |

13-(5) Check the settings specified for **Network Protocols**. Modify the settings as needed, and then click **Next**.

| Che | pose a network protoc<br>pose Custom Setting | ol.<br>s, click Advanced, if | you want to type a | n IP address. |
|-----|--|------------------------------|--------------------|---------------|
|     | Network Protocols                            |                              |                    |               |
|     | Standard Set                                 | ttings                       |                    |               |
|     | Custom Setti                                 |                              |                    |               |
|     | Standard Ada                                 | pter - Internet Protoco      | ol (IPv4)          | Advanced      |
|     |  |                              |                    |               |
|     |  |                              |                    |               |
|     |  |                              |                    |               |
|     |  |                              |                    |               |
|     |  |                              |                    |               |
|     |  |                              |                    | 7 / 11 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.

13-(6) Specify the domain or workgroup.

Check the settings, modify them as needed, and then click Next.

| Join a workgroup |             |             |
|------------------|-------------|-------------|
| Workgroup Name   | : WORKGROUP |             |
| O Join a domain  |             |             |
| Domain Name      | :           |             |
| Account Name     | :           |             |
| Password         | :           |             |
| Reenter Password | :           |             |
|                  |             |             |
|                  |             |             |
|                  |             | 8 / 11 Page |

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

| Witard   | ו | Wizard                          |   | 4           |
|--|---|---------------------------------|---|-------------|
| Choose Windows components you want to Install.   |   | Choose Windows components you w | want to install.  |             |
| Server Roles  Server Roles  DNS Server  Structure  Single TCP/IP Services  Single TCP/IP Services  WINS Server  WINS Server  Single TCP/IP Services  WINS Server | C | Server Roles                    | Print and Document Services     File Services     Hyper-V | Advanced    |
| 9 / 11 Page  |   |                                 |   | 9 / 11 Page |
| Back Next Cancel   |   | Back Nex                        | xt  | Cancel      |

Server with a GUI

Server Core Installations

13-(8) Check the settings of applications. Modify the settings as needed, and then click **Next**.

|     | Available Applications | Selected Applications  |
|-----|------------------------|--|
| ( ) |                        | NEC ESMPRO ServerAgentService<br>Express Report Service (+TTES)<br>Add >> Microsoft, NET Fanework Version 4.5.2<br>NEC ExpressUpdate Agent |
|     | Back Next              | 10 / 11 Page<br>Cancel   |

#### On the following screen, click Finish.

| The settings are now complete.     |              |
|------------------------------------|--------------|
| Click Finish to close this window. |              |
|                                    |              |
|                                    |              |
|                                    |              |
|                                    |              |
|                                    |              |
|                                    |              |
|                                    |              |
|                                    |              |
|                                    |              |
|                                    |              |
|                                    | 11 / 11 Page |
|                                    | 117 II Page  |
| Back                               | Cancel       |
| Back                               | Cancel       |

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

| 2    | Enter installation settings | 5. |
|------|-----------------------------|----|
| Ø    | Default                     |    |
| ~ 01 | Custom                      |    |

14. Check the parameter settings.

To save the settings, click Save.

| OS se  | election 2<br>Settings      | Confirmation               | 4<br>Installation |   |
|--------|-----------------------------|----------------------------|-------------------|---|
|        |                             |                            |                   |   |
| 2      | Confirm installat           | tion settings.             |                   |   |
| J      | (Check if valid installatio | on settings are specified) | )                 |   |
|        |                             |                            |                   |   |
| Skip c | onfiguring RAID array.      |                            |                   | ( |
| Opera  | ating system                | : Windows Serve            | r2012             |   |
| (Use V | Windows standard installer) |                            |                   |   |
| Convi  | ing OEM drivers             | : No                       |                   |   |
| copy   |                             |                            |                   |   |
|        |                             |                            | Save              |   |

Click  $\bigcirc$  on the right side of the screen.

15. The setup process starts.

Click Start to continue setup. 1 os selection 2 settings 3 on 4 installation 4 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

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

If EXPRESSBUILDER DVD is already set, this message will not appear.

| Selection | n            |             |                  |           |              |
|-----------|--------------|-------------|------------------|-----------|--------------|
|           | Insert the E | XPRESSBUILD | ER disc to the o | frive.    |              |
|           |              |             |                  | [ Message | ID : J2002 ] |
|           |              |             |                  |           |              |
| 3         |              |             |                  |           |              |
|           |              |             |                  |           |              |
|           |              |             |                  |           |              |
|           |              |             |                  |           |              |
|           |              | ОК          | Cancel           |           |              |

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

|   | Insert the OS installation disc.<br>Click <b>OK</b> to proceed to the automatic setup.           |
|---|--|
|   | (30-90 minutes until completion)<br>Do not use the mouse and keyboard during the setup until the |
|   | prompt screen appears.   |
| 2 | [ Message ID : J2004 ]   |
|   |  |
|   |  |
|   |  |

Windows Server 2012 is installed automatically.

Wait for completion (about 40 minutes) without performing any operation.

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

Wait for completion without performing any operation.

| $1_{2} \Rightarrow 2_{2}$ |
|---------------------------|
| Installing Starter Pack.  |
| Please wait for a while.  |
|                           |
|                           |
|                           |
|                           |
|                           |
|                           |
| $1_{/2}$ $2_{/2}$         |
| Installing applications.  |
| Please wait for a while.  |
|                           |
|                           |
|                           |
|                           |
|                           |
|                           |

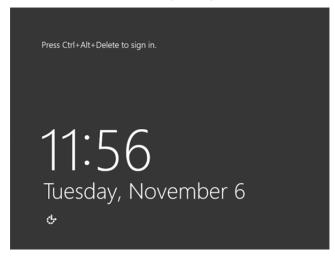
19. Read the terms of License Agreement.

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).

| Ple | ease read the license terms.  |
|-----|---|
|     | ICROSOFT SOFTWARE LICENSE TERMS<br>ICROSOFT WIRDOWS SERVER 2012 STANDARD  |
|     | ese 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.   |
|     | ase read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also<br>ply to any Microsoft  |
|     | updates,  |
|     | supplements,  |
|     | Internet-based services, and  |
|     | support services  |
| fre | I bis software, unless other terms accompany flow terms 3 roll, flower terms apply. 5 you obtain updates or supplements directly<br>in Microsoft, Microsoft, and ord the manufacturer or installance, licenses those to you. Protect paper locense terms, which may come<br>it the software, take place of any on-screen locense terms. |
|     | I accept the license terms for using Windows  |

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



On the following screen, type the password you have set in Step 11-(1) or 12-(4).



#### 21. Click OK.

| The setup is completed   |    |
|--|----|
| The Setup with EXPRESSBUILDER has been successfully completed. |    |
|  |    |
|  |    |
|  |    |
|  |    |
|  | ОК |
|  |    |
|  |    |

- 22. See "Chapter 1 (4.5 Checking installation of EXPRESSBUILDER)" to confirm that EXPRESSBUILDER has been installed in Windows.
- 23. Follow the instructions described in Chapter 1 (4.6 Setting Up Device Drivers) to set up the device drivers.
- 24. Confirm if Windows is activated according to Chapter 1 (4.7 License Authentication).
- 25. See Chapter 1 (4.8 Setup of Windows Server 2012 NIC Teaming (LBFO)) to setup a team as needed.
- 26. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).
- 27. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.

Setup with EXPRESSBUILDER is now complete.

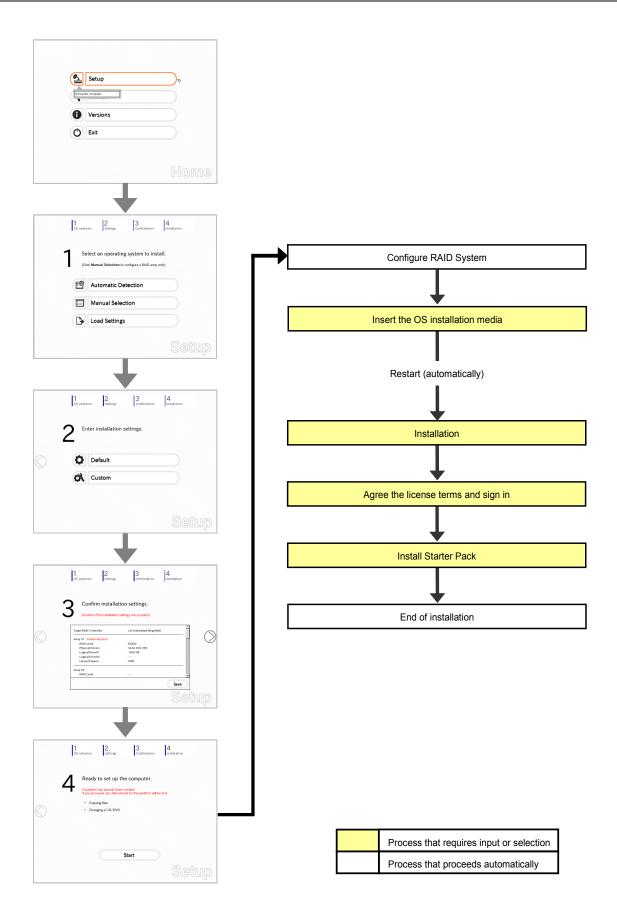
# **4.3** Setup with Windows Standard Installer

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 Windows standard Installer may delete all data of the hard disk<br>drive depending on the settings. Pay attention to input parameters. You must<br>be especially careful when configuring the following:<br>–RAID settings<br>When re-installing an OS, backing up user data is recommended.                            |
|-----------|--|
| Note      | When using an onboard RAID controller (LSI Embedded MegaRAID):<br>Do not support the creation of RAID10 by using the onboard RAID controller.<br>Refer to Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when<br>creating RAID10.   |
| Tips      | <ul> <li>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.</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>.</li> </ul> |

# 4.3.1 Setup flow



## 4.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

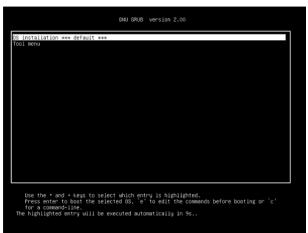
- > Either of the following OS installation media
  - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
  - Microsoft operating system installation media (hereafter referred to as *Windows Server 2012 DVD-ROM*)
- Either of the following EXPRESSBUILDER
  - Internal Flash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

## 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.



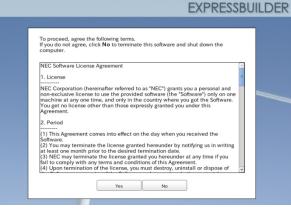
The server starts from EXPRESSBUILDER.



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



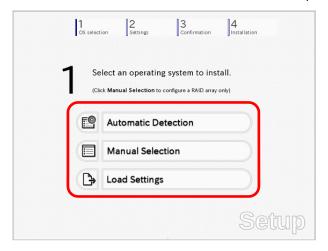
5. When the following screen appears, read the contents and click **Yes**.



6. Click Setup.

| Set up | Setup    |  |
|--------|----------|--|
| 0      | Versions |  |
| ٥      | Exit     |  |

7. On the **OS selection** menu, select the OS to install or specify the parameter file.



□ When *not using* a parameter file : Select **Automatic Detection**, and then go to Step 8. : Select **Manual Selection**, and then go to Step 9.

□ When *using* a parameter file : Select **Load Settings**, and then go to Step 10.

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

- 8. When *not using* a parameter file, let the OS on the installation media be recognized by using the following procedure.
  - 8-(1) Click Automatic Detection.

| 1 2 3 Selection Settings   | mation Installation |
|--|---------------------|
| Select an operating system<br>(Click Manual Selection to configure a R |                     |
| Automatic Detection  | <i>s</i>            |
| Select an operating system automatically with an installation disc.    |                     |
| Load Settings  |                     |
|  | Setur               |

8-(2) Insert the OS installation media, and then click OK.

|   | Insert the OS installation |    | nt to install.       |  |
|---|----------------------------|----|----------------------|--|
|   |                            | [1 | Nessage ID : B2014 ] |  |
| 2 |                            |    |                      |  |
|   |                            |    |                      |  |
|   |                            |    |                      |  |
|   |                            |    |                      |  |

8-(3) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 11.

| 1    | Select an operating system to in                | stall.   |   |
|------|---|----------|---|
|      | Click Manual Selection to configure a RAID arra | iy only) |   |
| × [0 | Automatic Detection                             |          | ( |
|      | Manual Selection                                |          |   |
| B    | Load Settings                                   |          |   |

- 9. When not using a parameter file, select an OS by using the following procedure.
  - 9-(1) Click Manual Selection.

| 1 2 Selection Settings Confirmation  | Installation |
|--|--------------|
| Select an operating system to ins<br>(Click Manual Selection to configure a RAID array |              |
| Automatic Detection  |              |
| Manual Selection   | <i>b</i>     |
| You can select the target OS of<br>the installation from the menu                      |              |
|  | Setur        |

9-(2) From the pull-down menu, select Windows Server 2012, and then click OK.

| Selection |  |  |
|-----------|--|--|
|           | Select an operating system to install. |  |
|           | Windows     Windows Server 2012        |  |
|           | C RAID Configuration Only              |  |
|           |  |  |
|           |  |  |
|           |  |  |
|           |  |  |
|           | OK Cancel                              |  |

9-(3) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 11.

|   | lect an operating system to in |  |
|---|--------------------------------|--|
| e | Automatic Detection            |  |
|   | Manual Selection               |  |
| B | Load Settings                  |  |

- 10. When using the parameter file, load the parameter file by using the following procedure.
  - 10-(1) Click Load Settings.

| 1<br>OS s | election Settings 3   | 3 4<br>Installation |
|-----------|---|---------------------|
| 1         | Select an operating syste<br>(Click Manual Selection to configure |                     |
| E         | Automatic Detection   | on                  |
|           | Manual Selection  |                     |
| C         | Load Settings   | <i>b</i>            |
|           | ad installation settings.   | Setup               |

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

| Immt     uar_connect       Places     Name       Image: Search     Image: Search       Image: Search     05 005 20 14 |                |
|---|----------------|
| Search         Cotion1         05/06/2014           Precently Used  |                |
| Recently Used     Toot  |                |
|   |                |
|   |                |
| 2 Desktee   |                |
| a Desktop   |                |
| Ele System  |                |
| Documents   |                |
| Music   |                |
| Pictures a  |                |
| Videos E  |                |
| Downloads   |                |
|   |                |
|   |                |
|   |                |
|   |                |
|   |                |
|   |                |
| Add Remove  |                |
|   |                |
| Cancel Open   |                |
|   |                |
| <b>-</b>  |                |
| <b>Tips</b> For the removable media in which the parameter  | file is saved, |

"/mnt/usr\_connect/usb\*" (\* indicates a number).

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

| - |   | elect an operatin |          |   |
|---|---|-------------------|----------|---|
|   | E | Automatic D       | etection | ( |
|   |   | Manual Sele       | ction    |   |
| • |   | Load Setting      | s        |   |

10-(4) When the parameter file is correctly loaded, click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 12.

Click **Custom** to check and modify the setting in the wizard.  $\rightarrow$  Go to step 11-(1).

| 2 : | nter installation settings. |  |
|-----|-----------------------------|--|
| 0   | Default                     |  |
| ~ Ø | Custom                      |  |

11. Click Custom.

|            | 1<br>OS selection Settings                  | 3<br>Confirmation |   |
|------------|---|-------------------|---|
|            | 2 Enter installation set                    | tings.            |   |
| $\bigcirc$ | Default                                     |                   |   |
|            | Specify all settings for the<br>statistics. | s.                |   |
|            |   | Setu              | p |

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

| selected.                                     |                |   |   | the incorrect |             |
|---|----------------|---|---|---------------|-------------|
| Device Information-                           |                |   |   |               |             |
| RAID Controller                               |                | : |   |               | Detail      |
| Number of Physic                              | al Drives      | ; | 2 |               |             |
| Summary of RAID An                            | ay             |   |   |               |             |
| Array #1<br>RAID0 (1disk)<br>Logical Drive1 ( | 1117GB)        |   |   |               | ~           |
| RAID Configuration-                           |                |   |   |               |             |
| Skip Configur                                 | ing RAID Array |   |   |               |             |
|   |                |   |   |               | 1 / 11 Page |

#### 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 Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when creating RAID10.

#### 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.

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

Choose Use Windows standard installer, and then click Next.

| Basic Settings      |  |
|---------------------|--|
| Operating system    | : Windows Server 2012                    |
| Use Windows sta     | andard installer                         |
|                     |  |
| C Install Windows u | sing EXPRESSBUILDER                      |
| Edition             | : Standard(Server with a GUI)            |
| Language            | : English 🔅                              |
| Time Zone           | : (UTC-08:00) Pacific Time (US & Canada) |
|                     |  |
|                     |  |
|                     | 4 / 11 Page                              |

#### On the following screen, click Finish.

| The settings are now comp<br>Click Finish to close this | plete.  |              |
|---|---------|--------------|
| Click Finish to close this                              | window. |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         |              |
|   |         | 11 / 11 Page |
|   |         | ,            |
| Back  | Finish  | Cancel       |
| Back  | Finish  | Cancel       |

11-(3) On the following screen, click  $\bigcirc$  on the right side of the screen.

| 2    | Enter installation settings. |  |
|------|------------------------------|--|
| Ø    | Default                      |  |
| ~ 01 | Custom                       |  |

12. Check the parameter settings. To save the settings, click **Save**. Click  $\bigcirc$  on the right side of the screen.

| 1<br>OS selection 2<br>Settings  | 3<br>Confirmation          | 4<br>Installation |   |
|----------------------------------|----------------------------|-------------------|---|
| ~                                |                            |                   |   |
| 3 Confirm installa               | -                          |                   |   |
| (Check if valid installati       | on settings are specified) |                   |   |
| Skip configuring RAID array.     |                            |                   |   |
| Operating system                 | : Windows Server 2         | 012               |   |
| (Use Windows standard installer) |                            |                   |   |
| Copying OEM drivers              | : No                       | _                 |   |
|                                  |                            | Save              |   |
|                                  |                            |                   |   |
|                                  |                            |                   | 2 |

13. The setup process starts.

| CIICK Star        |                   | iue setup                                     | ).                                    |                   |   |
|-------------------|-------------------|---|---------------------------------------|-------------------|---|
|                   | 1<br>OS selection | 2<br>Settings                                 | 3<br>Confirmation                     | 4<br>Installation |   |
| 4                 |                   | to set up the                                 |                                       |                   |   |
|                   | If you pro        | n has already been c<br>oceed, any data store | reated.<br>ed on the partition will b | e lost.           |   |
| _                 | * Con             | figuring RAID system                          |                                       |                   |   |
| $\langle \rangle$ | * Char            | nging a CD/DVD                                |                                       |                   |   |
|                   | * Insta           | alling an OS                                  |                                       |                   |   |
|                   |                   |   |                                       |                   |   |
|                   |                   |   |                                       |                   |   |
|                   |                   |   |                                       |                   |   |
|                   |                   |   | Start                                 |                   |   |
|                   |                   |   |                                       | Setu              | Ø |
|                   |                   |   |                                       |                   | 0 |

14. Insert the OS installation media into the disk drive, and then click **OK**.

|   | Insert an OS installat | ion disc for installing. | [ Message ID | J2000 J |
|---|------------------------|--------------------------|--------------|---------|
|   |                        |                          |              |         |
| 3 |                        |                          |              |         |
|   |                        |                          |              |         |
|   |                        |                          |              |         |

15. The server reboots automatically. Press the <F3> key when the following message appears during POST. Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network 16. The system starts from the OS installation media.

Note

The message "Press any key to boot from CD or DVD..." is displayed on the top of the screen. Press <Enter> key to start the system from the installation media.

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

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

17. Click Next.



18. Click Install now. Windows setup starts.

| 🖆 Windows Setup 🗖 🗖 💌                              |
|--|
| Windows Server 2012                                |
| Install now  |
| Bepair your computer                               |
|  |
| © 2012 Microsoft Corporation. All rights reserved. |

- If the following message appears, go to step 19.
- If not, go to step 21.

| 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  |

 Select the destination, and then click OK. Specify the displayed drive as INTER-FLASH.

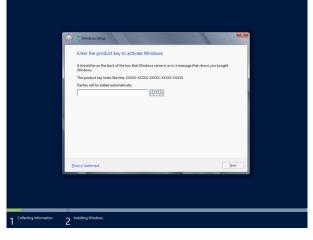
| \011\win\winnt\drivers\01 | storage\1 | al | 06 |
|---------------------------|-----------|----|----|
|                           |           |    |    |

- Tips
- The volume label of Internal Flash Memory is INTER-FLASH.
  If INTER-FLASH label is not displayed, reboot the server, and then perform setup again from step 15.
- 20. Select the following driver from the driver list shown, and then click Next.

### LSI Embedded MegaRAID

21. Type the product key, and then click Next.

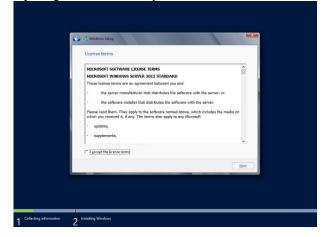
If you are using Backup DVD, this screen does not appear. Go to the next step.



22. Select the operating system to install, and the click **Next**. The screen display differs depending on an OS installation media you are using.

| 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     |  |
| supported. You can switch to a different installation option k<br>Options." |              |               |  |
|   |              |               |  |
|   |              |               |  |
|   |              | Next          |  |
|   |              |               |  |

23. Confirm the content of the license agreement. If you agree, select I accept the license terms and then click Next.



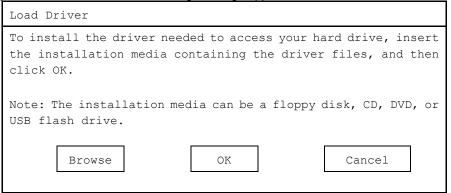
#### 24. Select the installation type.

Select Custom: Install Windows only (advanced) in this case.

| _                          |  |  |
|----------------------------|--|--|
| S                          | Mundows Setup  |  |
|                            | Which type of installation do you want?  |  |
|                            | Upgrade: Install Windows and keep files, settings, and applications<br>The files, settings and applications are moved to Windows with this option. This option is only<br>available when a supported version of Windows is already running on the computer.                        |  |
|                            | Curteen: Install Windows only Galvanced)<br>The file, starting, and applications used to Windows with this option. If you want to<br>make through to provide used a three, tasks the main option of the starting of the<br>externment backing up your files before your certainue. |  |
|                            | jely me decide   |  |
|                            |  |  |
|                            |  |  |
| 1 Collecting information 2 | Installing Windows   |  |

"Where do you want to install Windows?" window appears.
 If the driver is loaded in step 19 to 20 or if a RAID controller is not used, go to step 29.

If you select Load Driver, the following message appears.



- 26. Select the destination, and then click OK.
  - Specify the displayed drive as **INTER-FLASH**.

Tips

Onboard RAID Controller (LSI Embedded MegaRAID) : \011\win\winnt\drivers\01\_storage\1\_al\_06

RAID controller (N8103-188) : \011\win\winnt\drivers\01\_storage\1\_an\_02

- When using an EXPRESSBUILDER DVD, replace the DVD media in step 25 and select the optical disk drive.
  When using an onboard RAID controller, the driver can be loaded from the EXPRESSBUILDER DVD by using USB optical disk drive.
  - If INTER-FLASH label is not displayed, reboot the server, and then perform setup again from step 14.
- 27. Select the following driver from the driver list shown, and then click Next.

Onboard RAID Controller (LSI Embedded MegaRAID) : LSI Embedded MegaRAID

RAID controller (N8103-188) : LSI MegaRAID SAS 9341-8i

28. If you inserted the EXPRESSBUILDER DVD in Step 25, 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.

 <u>Windows cannot be installed to this disk</u>; (Show details)

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

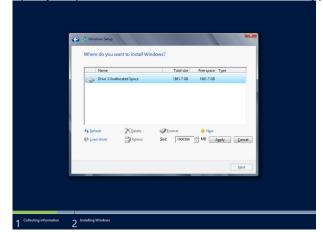
Create a partition in which the OS is to be installed.
 When creating a partition, click Drive Option (Advance).
 If a partition has already been created, go to step 32.

| 9                        | Windows Setup<br>Where do you want to install Wind |   |
|--------------------------|--|---|
|                          | Neme Drive 3 Unallocated Space                     | Total size Free space Type<br>1961.7 GB 1961.7 GB |
|                          |  |   |
|                          |  |   |
|                          | € Betrish<br>€ Load driver                         | Drive options (gdvanced)                          |
|                          |  | Not   |
|                          |  |   |
| Collecting information 2 | Installing Windows                                 |   |

30. Click New.

| Drive 3 Unallocated Space |
|---------------------------|
|                           |

31. Specify the partition size in the Size box, and the click Apply.





- 32. Select the partition created in step 31, and then click Format.
- 33. Select the created partition, and then click Next.

Important If the four partition types Recovery, System, MSR (Reserved), and Primary have not been created in the created partition, it means that you failed to create the partition. Delete the partition you attempted to create, and then create a new partition. If you have connected a data disk to a partition, be careful not to delete that partition.

Tips

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

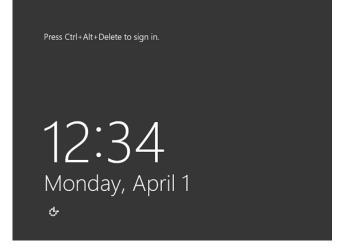
When the following message appears, Windows installation starts automatically.

|                            | 2 Windows Setup  |
|----------------------------|--|
|                            | Installing Windows   |
|                            | Your computer will restart several times. This might take a while.   |
|                            | Copying Windows films (\$P\$)<br>Commy film stable (for established<br>in the stable of the st |
|                            |  |
| 1 Collecting information 2 | Installing Windows   |

34. Type a password and click Finish.

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

35. <u>Press <Ctrl> + <Alt> + <Del> keys to sign in.</u>

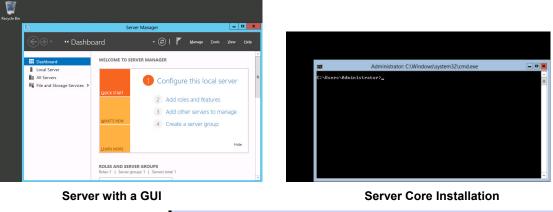


36. Type the password and press Enter.

| ۲ | Administrator<br>Signed in<br>Password |
|---|--|
| ¢ | Windows Server 2012                    |

Windows Server 2012 starts.

37. The following screen appears according to the contents selected (or displayed) in Step 22.





38. Install Starter Pack by referring to Chapter 1 (4.4 Installing Starter Pack).

Start EXPRESSBUILDER by either of the following two ways:

- Internal Flash Memory : 4.4.1 Installing Starter Pack after POST
- EXPRESSBUILDER DVD : 4.4.3 Using EXPRESSBUILDER installed in Windows
- 39. See "Chapter 1 (4.5 Checking installation of EXPRESSBUILDER)" to confirm that EXPRESSBUILDER has been installed in Windows.
- 40. Install drivers and specify detailed settings by referring to Chapter 1 (4.6 Setting Up Device Drivers).
- 41. Confirm if Windows is activated according to Chapter 1 (4.7 License Authentication).
- 42. See Chapter 1 (4.8 Setup of Windows Server 2012 NIC Teaming (LBFO)) to setup a team as needed.
- 43. Install the applications as needed by referring to Chapter 1 (4.9 Installing the Applications).
- 44. 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.   |
|-----------|---|
|           | <ul> <li>The motherboard of the server has been replaced</li> </ul>                                 |
|           | (If a dialog box prompting system reboot is displayed, reboot the                                   |
|           | system according to the on-screen instructions, and then apply the Starter Pack.)                   |
|           | <ul> <li>If the system was restored using a restore process</li> </ul>                              |
|           | <ul> <li>If a system has been restored using the backup tool</li> </ul>                             |
|           | • After installing build-in options, you may need installing Starter Pack.                          |
|           | For detail, refer to Chapter 1(4.6 Setting Up Device Drivers).                                      |
|           |   |
| 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 Installing Starter Pack after POST

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

Note Before pressing <F3> key, be sure to remove the DVD from the optical disk drive.

- 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.



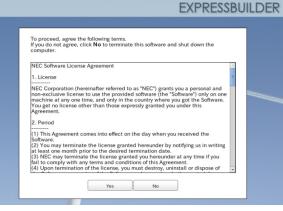
The server starts from EXPRESSBUILDER.



4. <u>Select English on the language selection window, and then click OK</u>.



5. When the following screen appears, read the contents and click **Yes**.



6. Click Utilities.

| Setu                 |     |   |
|----------------------|-----|---|
| Utilit               | es  | ₽ |
| Move to Utilities Me | lu. |   |
| <b>O</b> Exit        |     |   |

7. Click Starter Pack Installation.

| RAID Configuration Data                           |   |
|---|---|
| File Execution                                    |   |
| Starter Pack Installation                         | • |
| Install Starter Pack to the installed<br>Windows. |   |

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

| Selection | 1   | _ |
|-----------|---|---|
|           | Starter Pack will be installed on your Windows system. Proceed?<br>[Message ID : P2000] | _ |
| 0         |   |   |
|           |   |   |
|           |   |   |
|           | Yes No  |   |

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

|   | Copying Starter Pack is complete.  |
|---|--|
|   | Click Close to restart the computer.   |
|   | To install Starter Pack, follow the message after logging on to Windows.             |
| 0 | Run the following file on the system drive when installing with<br>Server Core mode. |
|   | [System Drive]:\StartPKG\app_pkg.bat   |
|   | [ Message ID : P1003 ]   |
|   |  |

The server then restarts. Do not press <F3> key and allow OS to start.

- 10. On Server Core installations, install Starter Pack following steps as below. On the server with a GUI, go to step 12.
  - (1) Enter the following command at the command prompt, and then open the folder under the system drive (drive C).

cd /d C:\StartPKG

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

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

app\_pkg.bat

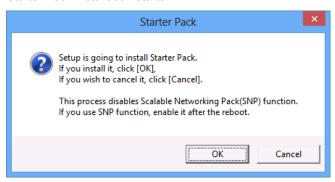
C:\StartPKG>app\_pkg.bat

11. The following screen appears.

Starter Pack is in preparation for application. Wait for a while (about 1 to 3 minutes.)

Applying Starter Pack is in preparation. Please wait for a while.

12. 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.

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

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

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

Installation of Starter Pack is now complete.

## 4.4.2 Installing Starter Pack using Windows Application

When EXPRESSBUILDER is installed on Windows, you can launch it as a Windows application. See Chapter 1 (4.5. Checking installation of EXPRESSBUILDER).

- 1. Sign-in to the system with the built-in administrator, which has administrative privileges.
- 2. Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen.
- 3. Click Integrated Installation on the menu.



4. Select Starter Pack on the following screen, and then click Install.

| EXPRE | ESSBUILDER  |          |               | NEC   |
|-------|---|----------|---------------|-------|
|       | Integrated Installation   |          |               |       |
|       | Install the following software.<br>- Install Starter Pack prior to installing th<br>- Uninstall the application prior to reinst |          | tion.         |       |
|       | Starter Pack  |          |               |       |
|       | NEC ESMPRO ServerAgentService   | Rev1.22  | Not installed |       |
|       | Express Report Service  | Rev3.5E  | Not installed |       |
|       | Express Report Service (HTTPS)  | Rev3.6   | Not installed |       |
|       | Microsoft .NET Framework Version 4.5.   | 2        | Not installed |       |
|       | Universal RAID Utility  | Rev4.10  | Not installed |       |
|       | Product Info Collection Utility   | Rev2.9.3 | Not installed |       |
|       | Ezclct Viewer   | Rev2.2.0 | Not installed |       |
|       | NEC ExpressUpdate Agent   | Rev3.18  | Not installed |       |
| 9     |   |          |               |       |
| B     |   |          | In            | stall |
|       |   |          |               |       |

5. See Step 12 and the subsequent steps in Chapter 1 (4.4.1 Installing Starter Pack after POST) for further procedure.

## 4.4.3 Using EXPRESSBUILDER installed in Windows

When you use EXPRESSBUILDER DVD (option), follow the steps below.

#### Installation from Windows (Server with a GUI)

- 1. Sign-in to the system with the administrator account.
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. See Step 3 and the subsequent steps in Chapter 1 (4.4.2 Installing Starter Pack using Windows Application) for further procedure.

#### Installation from Windows (Server Core Installations)

- 1. From the command prompt, type the following command. In the example below, the optical disk drive is the D drive.
  - Cd /d D:\011\win\winnt\bin C:\Users\administrator>cd /d D:\011\win\winnt\bin
- 2. Enter the following, and then press the <Enter> key.

```
Pkgsetup.vbs
```

D:\011\win\winnt\bin>pkgsetup.vbs

Wait until installation completes (about 1 to 3 minutes).

Installation of Starter Pack is now complete.

# **4.5** Checking installation of EXPRESSBUILDER

Confirm that EXPRESSBUILDER has been installed in Windows.

### (1) Server using GUI

 Click the shortcut on the desktop or select "NEC EXPRESSBUILDER" from the Windows start screen.

| The following scre |                         |                          |
|--------------------|-------------------------|--------------------------|
|                    | NEC EXPRESSBUILDER      |                          |
| EXPRESSBL          | JILDER                  | NEC                      |
|                    | Instruction Manuals     |                          |
| 0                  | Versions                |                          |
| 2                  | Integrated Installation |                          |
|                    | Applications            |                          |
|                    | Files For Setup         |                          |
| ٩ (                | Maintenance             |                          |
|                    | Exit                    | Version 7.10-000.01(001) |

2. Click "Exit" to quit the menu.

Check is now complete.

#### (2) Server Core Installation

Enter the following at the command prompt and press the <Enter> key.
 eb\_cli.exe 'show /repository'

The following steps are not required when a folder path is displayed after "RepositoryPath=". Go to step 2 when the following message is displayed.

The repository has not been created. After creating the repository by "load /repository", please run again.

Enter the following at the command prompt and press the <Enter> key.
 Wait for a while until the command is completed.

eb\_cli.exe 'load /repository'

Check is now complete.

# **4.6** 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.

## 4.6.1 Installing the LAN drivers

## (1) LAN drivers

For the system that network adapter is connected, if it is setup with EXPRESSBUILDER, the LAN driver will automatically be installed.

For the system that network adapter is connected, if it is setup with Windows standard installer, apply Starter Pack to install the LAN driver.

| Important | Wake On LAN (WOL) is supported by the standard network adapters only.   |
|-----------|---|
|           | Wake On LAN will be able to be used in the state after the installation of the  |
|           | Wake On LAN (WOL) is supported by the standard network adapters only.<br>Wake On LAN will be able to be used in the state after the installation of the<br>LAN Driver. For BIOS settings, check the "User's Guide". |
|           |   |

Note

- To change the LAN driver settings, Sign in 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: N8104-149/150/151/152 /153

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

The LAN driver is not installed if N8104-149 /153 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 N8104-149 /153 LAN driver manually.

#### N8104-149

Note

When **QLogic Driver Installer** is shown to **Programs and Features**, this step is unnecessary.

1. Start command prompt and then open the folder under the system drive (drive C), enter the following file, and run the file.

C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers \02\_network\1\_as\_02\install\_ws2012.bat

If using EXPRESSBUILDER DVD (option), run the following file on the DVD.

\011\win\winnt\drivers\02 network\1 as 02\install ws2012.bat

2. When the following message appears, restart the system.

QLOGIC Driver Installation Completed!

3. When LAN board is new addition, setting each LAN board by referring to Chapter 1(4.6.2 Setting up LAN drivers).

Setup is now completed.

## N8104-153

Note

When Intel(R) Network Connections Drivers is shown to Programs and Features, this step is unnecessary.

1. Start command prompt and then open the folder under the system drive (drive C), enter the following file, and run the file.

C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers \02\_network\1\_ag\_01\install\_ws2012.bat

#### If using EXPRESSBUILDER, run the following file.

\011\win\winnt\drivers\02 network\1 ag 01\install ws2012.bat

2. When the following message appears, restart the system.

Intel Driver Installation Completed!

 When LAN board is new addition, setting each LAN board by referring to Chapter 1(4.6.2 Setting up LAN drivers).

Setup is now completed.

## (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 (\*1)

## If connecting with an optional LAN board:

| N8104-149               | : QLogic BCM57810 10 Gigabit Ethernet (NDIS VBD Client) #xx (*1)                        |
|-------------------------|---|
| N8104-150/151/152       | : Broadcom NetXtreme Gigabit Ethernet #xx (*1)  |
| N8104-153               | : Intel(R) Ethernet Controller X540-AT2 #xx (*1)  |
| *1 If there are adapter | s with the same name, a different identification number will be assigned to <i>xx</i> . |

Tips

The ID for N8104-149 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.

## 4.6.2 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

When using N8104-149, you can specify "10 Gb Full" for network adapter and "Auto Negotiation" to switching hub.

- 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.
- 3. On the Advanced tab, set the Speed & Duplex values to the same as those of the switching hub.
- 4. Click OK.
- 5. Restart the system.

The link speed setting is now complete.

### (2) When using N8104-150/151/152

When using N8104-150/151/152 with the server, follow the procedure below to set it.

Run the following file on the system drive (drive C).
 C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt

\drivers\02\_network\1\_ah\_02\pgdyavd\_disable.vbs

If using EXPRESSBUILDER DVD (option), run the following file on the DVD.

\011\win\winnt\drivers\02\_network\1\_ah\_02\pgdyavd\_disable.vbs

2. When the following message appears, click OK.



Tips

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

3. Restart the system.

Setup is now completed.

## 4.6.3 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.

Tips

In Server Core environment, the graphics accelerator driver is not installed automatically. Install it by the procedures described below.

To install drivers separately, complete the following steps.

- 1. Double-click the install.bat icon in the following folder.
  - If Starter Pack was installed from Internal Flash Memory:
     C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt \drivers\03\_Graphic\1\_aj\_02\install.bat
  - When using EXPRESSBUILDER DVD: \011\win\winnt\drivers\03\_Graphic\1\_aj\_02\install.bat
- You will be prompted to confirm the End User License Agreement during this process. Click the ACCEPT button to continue.
- 3. Restart the system.

Graphic accelerator driver installation is now complete.

## 4.6.4 When using a SAS controller (N8103-142/184)

The driver for SAS controller N8103-142/184 is automatically installed by Windows Plug-and-Play.

## 4.6.5 When using a RAID Controller (N8103-176/177/178/179)

The driver for RAID Controller N8103-176/177/178/179 is automatically installed by Windows Plug-and-Play.

## 4.6.6 When using a Fibre Channel controller (N8190-157A/158A/159/160)

The driver for Fibre Channel controller N8190-157A/158A/159/160 is automatically installed by Windows Plug-and-Play.

If the Fibre Channel controller N8190-157A/158A/159/160 is installed after the OS has been installed, you need to install Starter Pack again.

# **4.7** License Authentication

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

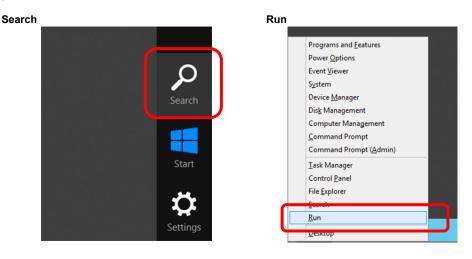
Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

Connect to the Internet to perform the authentication procedure.

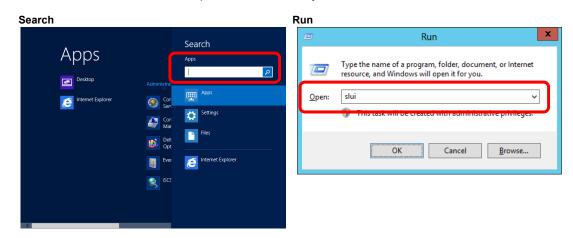
Or, use the telephone to perform the authentication procedure.

## (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.

| P                 | Windows Activation  |                          |                    | - 0 ×  |
|-------------------|---|--------------------------|--------------------|--------|
| 💮 💮 = 🛧 🏲 🕨 Conti | ol Panel + System and Security + Action Center + Windows Activation   | ~ ¢                      | Search Control Pan | el ,P  |
| R                 | Windows isn't activated<br>Windows can't be activated right now. Try activiting Windows later. If this issue persists, conta<br>Support online to activate Windows. | ict Microsoft Customer S | iervice and        |        |
|                   | Current edition<br>Windows Server 2012 Standard<br>Current product: Key<br>*****-CDG9P  |                          |                    |        |
|                   | Contact Microsoft Customer Service and Support online<br>What is a product key?<br>Read the Microsoft Software License Terms  |                          |                    |        |
|                   | Activation details  |                          | $\odot$            |        |
|                   |   |                          |                    |        |
|                   |   |                          |                    |        |
|                   |   |                          |                    |        |
|                   |   |                          |                    | Cancel |
|                   |   |                          |                    |        |

Tips

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

Windows activation is now complete.

## (2) Server Core installations

 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 to get an Install ID for license authentication, and then press the <Enter> key.

C:\Users\administrator>slmgr -dti

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.

# **4.8** 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.
- Teaming of virtual NICs on the host OS is not supported in the Hyper-V environment.
- When STP (Spanning Tree Protocol) is enabled on network switch ports to which network adapters of the team are connected, network communications may be disrupted. Disable STP, or configure "PortFast" or "EdgePort" to the ports.
  - \* About setting the network switch of the connection destination, see the manual of the network switch.
- All NICs in the team must be connected to the same subnet.
- Teaming of different speed NICs is not supported.
- Teaming of different vendor's NICs is not supported.

Refer to the following website for the latest information.

http://www.58support.nec.co.jp/global/download/w2012/index.html

# **4.9** Installing the Applications

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.
- Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen. Or, Insert the EXPRESSBUILDER DVD (option) into the optical disk drive. Or, if EXPRESSBUILDER has been installed in Windows, you can use it as a Windows application. Select NEC from Windows Start menu to launch NEC EXPRESSBUILDER.
- 3. <u>Click Integrated Installation on the menu.</u>

| INEC EXPRESSBUILDER     |  |
|-------------------------|--|
| JILDER                  | NEC  |
| Instruction Manuals     |  |
| Versions                | $\supset$  |
| Integrated Installation |  |
| Applications            |  |
| Files For Setup         |  |
| Maintenance             |  |
| Exit                    | Version 7.10-000.01(001)   |
|                         | JILDER<br>Instruction Manuals<br>Versions<br>Integrated Installation<br>Applications<br>Files For Setup<br>Maintenance |

4. Select **Applications**, and select the check boxes corresponding to the applications to want to install, and then click **Install**.

The selected applications are automatically installed.

|      | SSBUILDER   |          |               | NEC |
|------|---|----------|---------------|-----|
|      | Integrated Installation   |          |               |     |
| 0    | Install the following software.<br>- Install Starter Pack prior to installing th<br>- Uninstall the application prior to reinst<br>C Starter Pack |          | ion.          |     |
|      | C   |          |               |     |
| 2    | E NEC ESMPRO ServerAgentService   | Rev1.22  | Not installed |     |
|      | Express Report Service  | Rev3.5E  | Not installed |     |
|      | Express Report Service (HTTPS)  | Rev3.6   | Not installed |     |
|      | Microsoft .NET Framework Version 4.5.   | 2        | Not installed |     |
|      | C Universal RAID Utility  | Rev4.10  | Not installed |     |
| In I | Product Info Collection Utility   | Rev2.9.3 | Not installed |     |
|      | Ezclct Viewer   | Rev2.2.0 | Not installed |     |
|      | R NEC ExpressUpdate Agent   | Rev3.18  | Not installed |     |

Note

• Applications available for installation are selected by default.

• 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 *Chapter 2 Installing Bundled Software.*)

- 5. When a message appears, click **OK**, and then remove the EXPRESSBUILDER disk from the optical disk drive.
- 6. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.

Now installation of applications is completed.

## **4.10** 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 used for setup, if the server has two or more RAID Controllers installed.
     Disconnect an external disk (\*) from the server by turning the power of it off or disconnecting cables. Install those hard disk drives and cables after setup has completed. Conducting setup with those being connected with
    - the server may cause existing data to be erased unintentionally. \* Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit

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 *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 (4.3 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.

- 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 Assign next drive letter, and then select the drive letter you want to assign.
- 5. Click OK.
- 6. Close the Server Manager.

# 5. Setting Up Windows Server 2008 R2

Set up Windows Server 2008 R2.

## **5.1** Before Starting Setup

Read through the cautions explained here before starting setup.

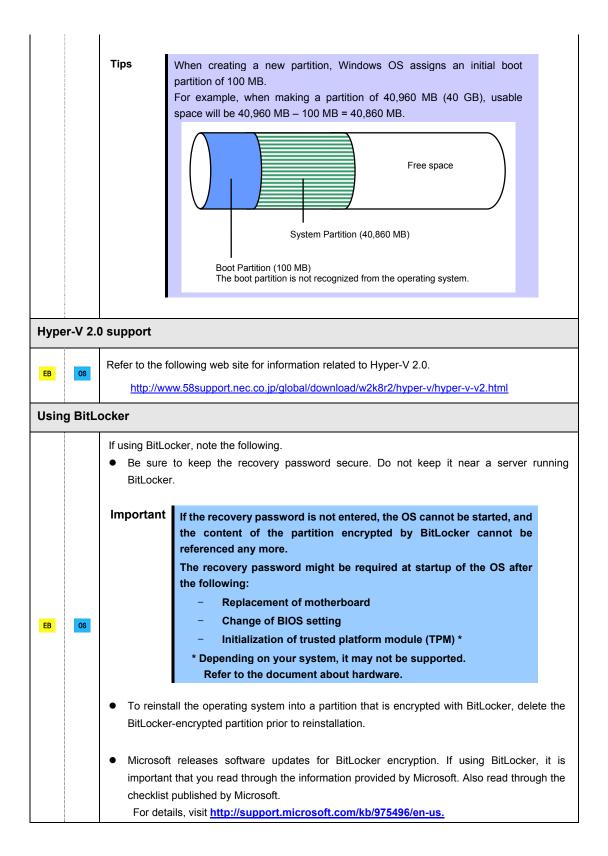
- **EB** : Confirm during Setup with EXPRESSBUILDER
- 08
- : Confirm during Setup with Windows standard installer

| BIOS | 6 settir | ng   |
|------|----------|--|
| ЕВ   | OS       | Change Boot Mode to Legacy Mode. See Chapter 2 (1. System BIOS) in Maintenance Guide for details.<br>Boot $\rightarrow$ Boot Mode $\rightarrow$ Legacy   |
|      |          |  |
| EB   | 08       | Select <b>Disabled</b> for X2APIC feature of processor. See <i>Chapter 2 (1. System BIOS)</i> in <i>Maintenance Guide</i> for details.   |
|      |          | Advanced $\rightarrow$ Processor Configuration $\rightarrow$ X2APIC $\rightarrow$ Disabled   |
|      |          | Select <b>Disabled</b> for XHCI Hand-off. See <i>Chapter 2 (1. System BIOS)</i> in Maintenance Guide for details.  |
| -    | 08       | Advanced $\rightarrow$ USB Configuration $\rightarrow$ XHCI Hand-off $\rightarrow$ Disabled  |
|      |          | Select Enabled for XHCI Hand-off after Starter Pack installed.   |
| Hard | lware o  | configuration  |
|      |          | The following hardware configurations require special procedures.  |
| EB   | -        | When using an onboard RAID controller (LSI Embedded MegaRAID), you cannot use system recovery options.   |
|      |          | Reinstalling to a mirrored volume  |
| EB   | OS       | 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 <b>Computer Management – Disk Management</b> to create, disable, or remove the mirrored volume. |
| EB   | OS       | <b>Peripheral devices such as RDX/MO</b><br>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   | OS       | DAT, LTO, or similar media<br>Do not set any media such as DAT or LTO while installing an OS.  |

|    |    | Installing in internal or external multiple (logical drives)  |
|----|----|---|
|    |    | For details on installing operating systems to a system in which two or more RAID Controller exist,   |
| EB | OS | or to an external disk drive* that is not subject to setup, refer to Chapter 1 (5.10 Installation When  |
|    |    | Multiple Logical Drives Exist).   |
|    |    | * Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit.   |
| EB | OS | Reinstalling to hard disk drives that have been upgraded to dynamic disks<br>If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be<br>reinstalled to it with the existing partitions.<br>Set up the operating system with the Windows standard installer.  |
| EB | OS | Setup when mass memory is installed   |
|    |    | If mass memory is installed in your system, the large size of paging file is required at installation.<br>Thus, the partition size for storing debug information (dump file) may not be secured.  |
|    |    | If you fail to secure the dump file size, allocate the required file space to multiple disks by performing the following steps.   |
|    |    | <ol> <li>Set the system partition size to a size sufficient to install the OS and paging file.</li> <li>Specify another disk as the destination to store the debug information (required dump file size) by referring to <i>Chapter 1 (6. Setup for Solving Problems)</i>.</li> </ol>   |
|    |    | 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.  |
|    |    | <b>Note</b> 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 installing Windows.  |
|    |    | <ul> <li>Specify a hard disk drive other than the system drive as the location to store the<br/>paging file for collecting memory dump</li> </ul>   |
|    |    | 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<br>D: Paging file whose size is "installed memory size + 300 MB" or more   |
|    |    | → The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.   |
|    |    |   |

| Example   | e of incorrect setting 1   |
|---|--|
|   | aging file whose size is smaller than the installed memory size<br>aging file whose size is "installed memory size + 300 MB" or mo   |
| col   | e paging file in drive C is used for collecting memory dump, b<br>lection may fail because the size of the paging file is smaller than the<br>talled memory size.  |
| Example   | e of incorrect setting 2   |
| D: Pa   | aging file whose size is "installed memory size × 0.5"<br>aging file whose size is "installed memory size × 0.5"<br>aging file whose size is 300 MB  |
| but   | total paging file size in all drives is "installed memory size + 300 MB collection may fail because only the paging file in drive C is used for lecting memory dump.   |
| Example   | e of incorrect setting 3   |
| (in $ ightarrow$ Pag  | aging file whose size is "installed memory size + 300 MB" or mor<br>dynamic volume)<br>ing files in a dynamic volume cannot be used for collecting memor<br>np. Thus, collecting memory dump fails.  |
| -   | ive other than the system drive for "Dedicated Dump File".   |
| ate the re<br>dicated Du  | egistry shown below by using the Registry Editor and specify the r<br>ump File.  |
| eate the re<br>dicated Du   | egistry shown below by using the Registry Editor and specify the r<br>ump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D>   |
| eate the re   | egistry shown below by using the Registry Editor and specify the r<br>ump File.  |
| ate the re<br>licated Du<br>When spe  | egistry shown below by using the Registry Editor and specify the r<br>ump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM  |
| eate the re<br>dicated Du<br>When spe<br>Key:<br>Name:<br>Type:   | egistry shown below by using the Registry Editor and specify the rump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ  |
| eate the re<br>edicated Du<br><when spe<br="">Key:<br/>Name:</when>   | egistry shown below by using the Registry Editor and specify the nump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile  |
| When spectrum<br>Key:<br>Name:<br>Type:<br>Data:  | egistry shown below by using the Registry Editor and specify the rump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys  |
| When spectrum<br>Key:<br>Name:<br>Type:<br>Data:  | egistry shown below by using the Registry Editor and specify the rump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys  |
| When spectrum<br>Key:<br>Name:<br>Type:<br>Data:<br>Note the fo   | egistry shown below by using the Registry Editor and specify the r<br>ump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys  |
| eate the re<br>edicated Du<br><when spe<br="">Key:<br/>Name:<br/>Type:<br/>Data:<br/>Note the fo<br/>Pay s<br/>• The s</when>   | egistry shown below by using the Registry Editor and specify the fump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys<br>Ilowing when specifying Dedicated Dump File:<br>strict attention to edit the registry.<br>setting is applied after restarting the system.   |
| eate the re<br>edicated Du<br><when spe<br="">Key:<br/>Name:<br/>Type:<br/>Data:<br/>Note the fo<br/>• Pay s<br/>• The s<br/>• Spec</when>  | egistry shown below by using the Registry Editor and specify the rump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys  |
| reate the respective of the | egistry shown below by using the Registry Editor and specify the rump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys<br>Illowing when specifying Dedicated Dump File:<br>strict attention to edit the registry.<br>setting is applied after restarting the system.<br>ify a drive that has free space of "installed memory size + 300 MB" of<br>cated Dump File cannot be placed in dynamic volumes.<br>ellect memory dump by using Dedicated Dump File, a paging file is reference.    |
| eate the re<br>edicated Du<br><when spec<br="">Key:<br/>Name:<br/>Type:<br/>Data:<br/>Note the fo<br/>Pay s<br/>• The s<br/>• Spec<br/>• Dedic<br/>• To co<br/>any c</when>   | egistry shown below by using the Registry Editor and specify the rump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys<br>Illowing when specifying Dedicated Dump File:<br>strict attention to edit the registry.<br>setting is applied after restarting the system.<br>ify a drive that has free space of "installed memory size + 300 MB" of<br>cated Dump File cannot be placed in dynamic volumes.<br>ollect memory dump by using Dedicated Dump File, a paging file is re-<br>trive. |
| ate the re<br>dicated Du<br>When spec<br>Key:<br>Name:<br>Type:<br>Data:<br>Data:<br>ote the fo<br>• Pay s<br>• The s<br>• Spec<br>• Dedic<br>• To cc<br>any c  | egistry shown below by using the Registry Editor and specify the fump File.<br>ecifying the file named "dedicateddumpfile.sys" in drive D><br>HKEY_LOCAL_MACHINE\SYSTEM<br>\CurrentControlSet\Control\CrashControl<br>DedicatedDumpFile<br>REG_SZ<br>D:\dedicateddumpfile.sys<br>Illowing when specifying Dedicated Dump File:<br>strict attention to edit the registry.<br>setting is applied after restarting the system.<br>ify a drive that has free space of "installed memory size + 300 MB" of<br>cated Dump File cannot be placed in dynamic volumes.<br>Illowing when specifying Dedicated Dump File, a paging file is re-              |

| tem pa | rtition size<br>The system partition size can be calculat<br>Size required to install the OS + paging  | ted by using the following formula.<br>file size + dump file size + application size  |
|--------|--|---|
|        | Full installations   |   |
|        | Size required to install the OS  | <ul> <li>= 15,600 MB</li> <li>(Windows Server 2008 R2 + Service Pack 1)</li> <li>= 8,400 MB</li> <li>(Windows Server 2008 R2 with Service Pack 1)</li> <li>= 0.000 MD</li> </ul>  |
|        |  | = 8,000 MB  |
|        |  | (Windows Server 2008 R2)  |
|        | Paging file size (recommended)   | = installed memory size × 1.5   |
|        | Dump file size<br>Application size   | = installed memory size + 300MB   |
|        | Application size   | = as required by the application  |
|        | Server Core installations  |   |
|        | Size required to install the OS  | = 11,100 MB   |
|        |  | (Windows Server 2008 R2 + Service Pack 1)<br>= 3,700 MB   |
|        |  | (Windows Server 2008 R2 with Service Pack 1)<br>= 3,500 MB  |
|        |  | (Windows Server 2008 R2)  |
|        | Paging file size (recommended)   | = installed memory size $\times$ 1.5  |
|        | Dump file size   | = installed memory size + 300MB   |
|        | Application size   | = as required by the application  |
|        | installation <b>s</b> is selected, the partition size<br>8,000 MB + (1,024MB × 1.5) + 1,024<br>= 10,960MB  |   |
|        | The above mentioned partition size is the<br>Ensure that the partition size is sufficient  | minimum partition size required for system installation.<br>for system operations.  |
|        | The following partition sizes are recomme  | ended.  |
|        | Full installations :   | 32,768MB (32GB) or more   |
|        | Server Core installations :  | 10,240MB (10GB) or more   |
|        | *1 GB = 1,024 MB   |   |
|        | <ul> <li>information (dump file). The must be large enough to some set a sufficient, there will be a inability to collect correct of the sizes of maximum size of the dump set and the sizes of the size</li></ul> | sient paging file size. If the paging file is<br>virtual memory shortage that may result in an<br>debug information.<br>internal memory and write debug information, the<br>p file is "size of internal memory + 300 MB".<br>ications or other items, add the amount of space |
|        | <ul><li>maximum size of the dum</li><li>When installing other application</li></ul>  | p file is "size of internal memory + 300 MB".<br>ications or other items, add the amount of space<br>to the partition.<br>vs is smaller than the recommended size, expand th  |



| Insta | alling S | ervice Pack   |
|-------|----------|---|
| ЕВ    | OS       | <ul> <li>If the OS installation media contains Service Pack 1, you do not need to apply the service pack again.</li> <li>You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself.</li> </ul> |
| Lice  | nse au   | thentication  |
|       |          | License authentication is required depending on the installation of Windows.<br>For details, refer to 5.7 <i>License Authentication</i> .   |
| EB    | OS       | <ul> <li>Note</li> <li>Activate within 30 days following installation.</li> <li>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.</li> </ul>              |

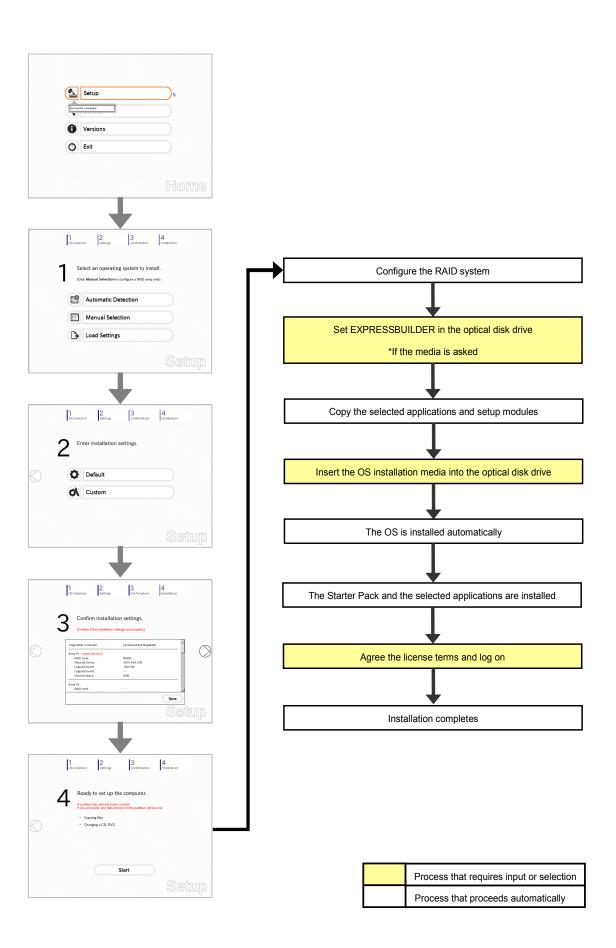
## **5.2** Setup with EXPRESSBUILDER

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.

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 | <ul> <li>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:         <ul> <li>RAID settings</li> <li>Partition Settings</li> <li>When re-installing windows, backing up user data is recommended.</li> </ul> </li> <li>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.</li> <li>Precautions for installation are as follows:         <ul> <li>Use EXPRESSBUILDER DVD (optional or on web site). Cannot use EXPRESSBUILDER on Internal Flash memory (F3 key function).</li> <li>Use an internal optical disk drive on the server when installing. Cannot use a USB interface drive and remote media feature of EXPRESSSCOPE Engine 3.</li> <li>Use a display, mouse, keyboard, and other devices connected directly to the server. Cannot use the remote KVM feature of EXPRESSSCOPE Engine 3.</li> </ul> </li> </ul> |
|-----------|--|
| Note      | <ul> <li>The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER.<br/>The setting of SNP function may affect the system performance.<br/>Contact your sales representative for details.</li> <li>The creation of RAID10 by using the onboard RAID controller (LSI Embedded MegaRAID) is not supported. See <i>Chapter 2 (5. RAID System Configuration)</i> in Maintenance Guide when creating RAID10.</li> </ul>   |
|           |  |
| Tips      | <ul> <li>Microsoft .NET Framework Version 3.5.1 is enabled when Starter Pack is applied in full-installation environment.</li> <li>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.</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>.</li> </ul>   |

## *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 R2 DVD-ROM)
- > The following EXPRESSBUILDER
  - EXPRESSBUILDER DVD (Option)
- > Prepare if needed:
  - First Steps Guide
  - 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.)

Important Check that internal optical disk drive is connected before installation.

## 5.2.3 Setup procedure

Setup with EXPRESSBUILDER uses wizard to configure parameters and allows you to save the parameters specified in setup on removable media as a parameter file.

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).
- Select OS installation \*\*\* default \*\*\*.
   You will automatically advance to step 4, with no need for further input.

| Boot selection   |
|--|
| OS installation and default and<br>Tool meau (Normal mode)<br>Tool meau (Redirection mode) |
|  |
|  |
| Automatic boot in 10 seconds   |
|  |
|  |
|  |

The following window appears.



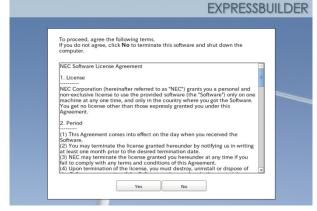
The server starts from EXPRESSBUILDER.



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



5. When the following screen appears, read the contents and click Yes.



6. Click Setup.

| Set up | Setup    | ₽ |
|--------|----------|---|
| •      | Versions |   |
| ٥      | Exit     |   |

7. On the OS selection menu, select the OS to install or specify the parameter file.

| 1<br>OS select       | ion 2 3<br>Settings Confirmation | 4<br>Installation |  |  |
|----------------------|----------------------------------|-------------------|--|--|
|                      | lect an operating system to in   |                   |  |  |
| e                    | Automatic Detection              |                   |  |  |
|                      | Manual Selection                 |                   |  |  |
| B                    | Load Settings                    |                   |  |  |
|                      |                                  | Setup             |  |  |
| □ When <i>not us</i> |                                  |                   | <b>Detection</b> , and then<br>election, and then go |  |

|                                 |      | : Select Manual Selection, and then go to Step 9.  |
|---------------------------------|------|--|
| □ When <i>using</i> a parameter | file | : Select Load Settings, and then go to Step 10.  |
|                                 |      | setting up again, parameter input via the wizard can be omitted by loading ved parameter file. |

- 8. When *not using* a parameter file, let the OS on the installation media be recognized by using the following procedure.
  - 8-(1) Click Automatic Detection.

| 1 2 3<br>OS selection Settings Co   | nfirmation Installation |
|---|-------------------------|
| Select an operating syste<br>(Click Manual Selection to configure         |                         |
| Automatic Detection   | on D                    |
| Select an operating system<br>automatically with an installation<br>disc. |                         |
| Load Settings   |                         |
|   | Setup                   |

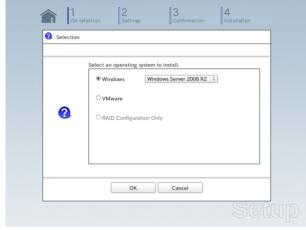
8-(2) Insert the OS installation media, and then click **OK**.

| CS selection | 2<br>Settings                              | 3<br>Confirmation            | 4<br>Installation |
|--------------|--|------------------------------|-------------------|
| 3 Selection  |  |                              |                   |
|              | e OS installation di<br>SBUILDER will dete | sc.<br>ct the OS you want to | o install.        |
|              |  | [ Mes                        | sage ID : B2014 ] |
| 2            |  |                              |                   |
|              |  |                              |                   |
|              |  |                              |                   |
|              | ОК   | Cancel                       |                   |
|              |  |                              | Se                |

- 8-(3) Click S on the right side of the screen. → Go to step 11.
- 9. When not using a parameter file, select an OS by using the following procedure.
  - 9-(1) Click Manual Selection.

| Select an operating system to                                   | install.    |
|---|-------------|
| (Click Manual Selection to configure a RAID a                   | array only) |
| Automatic Detection   |             |
| Manual Selection  | Ŵ           |
| You can select the target OS of the installation from the menu. |             |
|   | Setup       |

9-(2) From the pull-down menu, select **Windows Server 2008 R2**, and then click **OK**.



| 9-(3) Click 🛇 |               |               |                   |                   | step 11.   |
|---------------|---------------|---------------|-------------------|-------------------|------------|
|               | 1<br>OS selec | tion Settings | 3<br>Confirmation | 4<br>Installation |            |
|               |               |               | ng system to ins  |                   |            |
|               | Ľ             | Automatic D   | etection          |                   | $\bigcirc$ |
|               | •             | Manual Sele   | ection            |                   |            |
|               | Ŀ             | Load Setting  | ţs                |                   |            |
|               |               |               |                   | Sei               | lup        |

- 10. When using the parameter file, load the parameter file by using the following procedure.
  - 10-(1) Click Load Settings.

| 1<br>OS se | election Settings                                | 3<br>Confirmation | 4<br>Installation |
|------------|--|-------------------|-------------------|
| 1          | Select an operatin<br>(Click Manual Selection to |                   |                   |
| E          | Automatic De                                     | etection          |                   |
|            | Manual Selec                                     | tion              |                   |
|            | Load Setting                                     | 5                 | ₽                 |
| Ŀo         | ad installation settings.                        |                   | Setup             |

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

|               | 011003     | ing u i no | ~           |
|---------------|------------|------------|-------------|
| 📄 💷 mnt u     | sr_connect |            |             |
| Places        | Name       | ✓ Si       | ze Modified |
| 🌺 Search      | 🛅 cdrom 1  |            | 05/08/2014  |
| Recently Used |            |            |             |
| oot 🔁         |            |            |             |
| 🔯 Desktop     |            |            |             |
| Elle System   |            |            |             |
| Documents     |            |            |             |
| Music         |            |            |             |
| Pictures      |            |            |             |
| Videos        |            |            | =           |
| Downloads     |            |            |             |
|               |            |            |             |
|               |            |            |             |
|               |            |            |             |
|               |            |            |             |
|               |            |            |             |
|               |            |            |             |
| Add Remove    |            |            |             |
|               |            |            |             |
|               |            | Cancel     | Open        |
|               |            |            |             |

Tips

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

| 10-(3) | Click | $\bigcirc$ | on the | right | side | of the | screen. |
|--------|-------|------------|--------|-------|------|--------|---------|
|--------|-------|------------|--------|-------|------|--------|---------|

| <b>1</b> s | elect an operating system to insta                 | all. |   |
|------------|--|------|---|
| (0         | lick Manual Selection to configure a RAID array of | nly) |   |
| e          | Automatic Detection                                |      | ( |
|            | Manual Selection                                   |      |   |
| ¥ 🕒        | Load Settings                                      |      |   |

10-(4) When the parameter file is correctly loaded, click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 14.

Click **Custom** to check and modify the setting in the wizard.  $\rightarrow$  Go to step 13-(1).

| 2   | nter installation setting | S. |
|-----|---------------------------|----|
| Ø   | Default                   |    |
| ~ Ø | Custom                    |    |

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

□ When selecting **Default** : Go to Step 12.

□ When selecting **Custom** : Go to Step 13.

| -       |  |
|---------|--|
|         |  |
| Default |  |
| Custom  |  |

12. Click Default.

|            | 1 2<br>OS selection Settings   | 3<br>Confirmation | <b>4</b><br>Installation |
|------------|--|-------------------|--------------------------|
|            | 2 Enter installation s   | ettings.          |                          |
| $\bigcirc$ | Default  |                   | ₽                        |
|            | Specify minimum settings for the installation. Default values are used for other settings. |                   |                          |
|            |  |                   |                          |
|            |  |                   | Setup                    |

12-(1) Select the edition of the OS to install from the pull-down menu. Type the password, and then click **Finish**.

| 1.1 | Operating system              | : Windows S | erver 2008 R2      |   |            |
|-----|-------------------------------|-------------|--------------------|---|------------|
|     | Edition                       |             | Full Installation) | 0 |            |
|     | Language<br>Password Settings |             | ~                  |   |            |
|     | Administrator Pa              |             |                    |   | (Required) |
|     | Reenter Adminis               |             | :                  |   | (Required) |
|     |                               |             |                    |   |            |
|     |                               |             |                    |   |            |

- 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 (A Z), lowercase letters (a z), and symbols.
- 12-(2) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 14.

|   | 2 ▫ | ter installation s | ettings. |   |
|---|-----|--------------------|----------|---|
| ) | ~ 0 | Default            |          | ( |
|   | Ø   | Custom             |          |   |

13. Click Custom.

|            | 1<br>OS selection Settings  | 3<br>Confirmation |
|------------|-----------------------------|-------------------|
|            | 2 Enter installation settin | ıgs.              |
| $\bigcirc$ | Default                     |                   |
|            | Custom                      | <i>b</i>          |
|            | installation.               |                   |
|            |                             | Setup             |

13-(1) Use this menu to configure the RAID system and logical drives as needed.

| Device Information              |                 |     |             |
|---------------------------------|-----------------|-----|-------------|
| RAID Controller                 |                 | :   | Detail      |
| Number of Physi                 |                 | : 2 |             |
| Summary of RAID A               | rray-           |     |             |
| Array #1                        |                 |     |             |
| RAIDO (1disk)<br>Logical Drive1 | (1117GB)        |     |             |
| RAID Configuration              |                 |     |             |
| Skip Configu                    | ring RAID Array |     |             |
|                                 |                 |     | 1 / 11 Page |

```
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 *Chapter 2 (5. RAID System Configuration)* in "Maintenance Guide" when creating RAID10.

#### When creating new logical drives

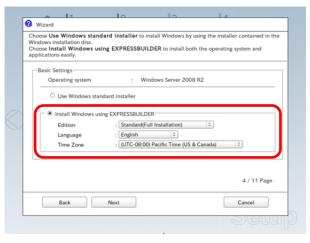
With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives according to the wizard.

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.

13-(2) Check the settings specified for **Basic Settings**. Choose **Install Windows using EXPRESSBUILDER**, and then click **Next**.



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

| Windo<br>the sy | y the settings of the s<br>ws will be installed in<br>stem partition is 2TB.<br>ta currently on an exis | to the first hard dis    | drive or logical driv | e. The maximum partition size for<br>ill be deleted. |
|-----------------|---|--------------------------|-----------------------|--|
| Curre           | nt Partitions (the area sho   | wn with a red frame will | be deleted) :         |  |
|                 |   |                          |                       |  |
|                 | ID 0B(FAT32) ID 07(N<br>0.3GB) (Total:40  | (0.1GB) (0.1GB)          | (1076GB)              |  |
|                 | rtition Settings  | (0.100)                  | ()                    |  |
| 1.0             | inter bettings  |                          |                       |  |
| L T             | Create a new partitie   | on                       |                       |  |
|                 | ○ Use all space   |                          |                       |  |
|                 | Type a partition  |                          | 40 (GB)               | *1TB=1024GB  |
|                 |   | (Minimum: 4              | OGB / Recommended     | : 40GB / Maximum: 1116GB)                            |
|                 |   |                          |                       |  |
|                 |   |                          |                       |  |
|                 |   |                          |                       | 5 / 11 Page  |
| ſ               | Back  | Next                     |                       | Cancel   |

- Important 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.

#### 13-(4) Enter the user information, and then click Next.

| Personalize the computer.<br>Type <b>Computer Name</b> within 15 charact<br><b>Administrator Password</b> must be at least<br>three of the four categories (numbers/upp | t six characters in length and m | ust contain characters fro |
|---|----------------------------------|----------------------------|
| User Information  |                                  |                            |
| Computer Name   | : 🗹 Automatic Numbering          |                            |
|   | BD4394570815                     | (Required)                 |
| User Name   | : Administrator                  |                            |
| Administrator Password  | :                                | (Required)                 |
| Reenter Administrator Password  | :                                | (Required)                 |
|   |                                  | 6 / 11 Page                |
| Back Next   | ]                                | Cancel                     |

| Note | Computer name and Administrator Password are required parameters.                        |
|------|--|
|      | Enter Administrator Password that satisfies the following conditions:                    |
|      | <ul> <li>Contains 6 or more characters</li> </ul>  |
|      | - Contains characters from at least three of the following categories: numbers,          |
|      | uppercase letters (A - Z), lowercase letters (a - z), 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.  |

## 13-(5) Check the settings specified for **Network Protocols**.

Modify the settings as needed, and then click Next.

| Choose a ne<br>Choose <b>Cus</b> | twork protocol.<br>tom Settings, c | lick <b>Advanced</b> , if | you want to type a | an IP address. |
|----------------------------------|------------------------------------|---------------------------|--------------------|----------------|
| Network                          | Protocols                          |                           |                    |                |
| ۲                                | Standard Setting                   | gs                        |                    |                |
| <b>Г</b> 0                       | Custom Settings                    |                           |                    |                |
|                                  | tandard Adapte                     | er - Internet Protoco     | ol (IPv4)          | Advanced       |
|                                  |                                    |                           |                    |                |
|                                  |                                    |                           |                    |                |
|                                  |                                    |                           |                    |                |
|                                  |                                    |                           |                    |                |
|                                  |                                    |                           |                    |                |
|                                  |                                    |                           |                    | 7 / 11 Page    |
|                                  | Back                               | Next                      |                    | Cancel         |
|                                  | Dack                               | INCAL                     |                    | Cancel         |

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.

Tips

Note

- The order of entry in **Custom settings** may differ from the numbering of LAN ports.
- 13-(6) Specify the domain or workgroup.
  - Check the settings, modify them as needed, and then click Next.

| in this computer to a domain or a<br>hoose Join a workgroup or Join | a domain, and then enter parameters. |             |
|---|--------------------------------------|-------------|
| <ul> <li>Ø Join a workgroup</li> <li>Workgroup Name</li> </ul>      | : WORKGROUP                          | ]           |
| - O Join a domain   |                                      |             |
| Domain Name   | :                                    | ]           |
| Account Name<br>Password  |                                      | ]           |
| Reenter Password  | :                                    | j           |
|   |                                      |             |
|   |                                      | 8 / 11 Page |
| Back Nex  | kt                                   | Cancel      |

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

| Wizard<br>Choose Windows components you want to install. |  |   | Wizard<br>Choose Windows components you want  | to install.                                       |                       |
|--|--|---|---|---|-----------------------|
| DHCP Server     FI                                       | Int and Document Services<br>le Services<br>yper-V<br>Advanced | C | Server Roles  Ubb Server (IIS)  DHCP Server  DHS Server  Windows Features  Windows Features  Windows Service  WiNS Server | Print and Document Services File Services Hyper-V | Advanced              |
| Back Next  | 9 / 11 Page  |   | Back Next   |   | 9 / 11 Page<br>Cancel |

Full installations

Server Core installations

### 13-(8) Check the settings of applications. Modify the settings as needed, and then click Next.

| See Desc | cription about each | application. |                     |  |
|----------|---------------------|--------------|---------------------|--|
|          | Available Applicat  | ons          |                     | Selected Applications  |
|          |                     |              | Add >><br><< Delete | NEC ESMPRO ServerAgentService<br>Express Report Service (HTTPS)<br>Universal RAID Utility<br>Microsoft .NET Framework Version 4.0.0<br>ExpressUpdate Agent |
| Desc     | ription             |              |                     |  |
|          |                     |              |                     | 10 / 11 Page   |

Tips

### The following applications support only full installation.

- NEC ESMPRO ServerAgentService
- Express Report Service
- Express Report Service (HTTPS)
- Microsoft .NET Framework Version 4.0.0

#### On the following screen, click Finish.

| Click Einish to c    | now complete.<br>lose this window. |              |
|----------------------|------------------------------------|--------------|
| Check I fillian to t | iose this window.                  |              |
|                      |                                    |              |
|                      |                                    |              |
|                      |                                    |              |
|                      |                                    |              |
|                      |                                    |              |
|                      |                                    |              |
|                      |                                    |              |
|                      |                                    |              |
|                      |                                    |              |
|                      |                                    | 11 / 11 Page |
|                      |                                    |              |
|                      | Finish                             | Cancel       |

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

| 1<br>OS selecti | on Settings        | 3<br>Confirmation | Installation |   |
|-----------------|--------------------|-------------------|--------------|---|
| 2 "             | ter installation s | settings.         |              |   |
| Ø               | Default            |                   |              | ( |
| 10 ~            | Custom             |                   |              |   |

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

| OS selection Setting           | confirmation Installatio      |      |
|--------------------------------|-------------------------------|------|
|                                |                               |      |
| Confirm instal                 | lation settings.              |      |
| Check if valid install         | ation settings are specified) |      |
|                                | ,                             |      |
|                                |                               |      |
| Skip configuring RAID array.   |                               | H (` |
|                                |                               |      |
| Operating system               | : Windows Server 2008 R2      |      |
| (Install Windows using EXPRESS | BUILDER)                      |      |
| Edition                        | : Standard(Full Installation) |      |
| Language                       | : English                     |      |
|                                | Save                          |      |
|                                |                               |      |

Click  $\bigcirc$  on the right side of the screen.

## 15. The setup process starts.

| Click Start       | to contin                  | iue setup                                  | ).                                    |                 |
|-------------------|----------------------------|--|---------------------------------------|-----------------|
|                   | 05 selection               | 2<br>Settings                              | 3<br>Confirmation                     | 4<br>Installati |
|                   | Ready                      | to set up the                              | e.computer.                           |                 |
| _                 | A partition<br>If you proc | has already been c<br>ceed, any data store | reated.<br>ed on the partition will b | e lost.         |
| $\sim$            | * Confi                    | guring RAID system                         | ı                                     |                 |
| $\langle \rangle$ | <ul> <li>Copy</li> </ul>   | ing files                                  |                                       |                 |
| $\bigcirc$        | <ul> <li>Chang</li> </ul>  | ging media                                 |                                       |                 |

Start

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

If EXPRESSBUILDER DVD is already set, this message will not appear.

| Selection | n                  |                    |             |
|-----------|--------------------|--------------------|-------------|
|           | Insert the EXPRESS | BUILDER disc to th | D : J2002 ] |
|           |                    |                    |             |
|           |                    |                    |             |
|           |                    |                    |             |
|           | ОК                 | Can                |             |

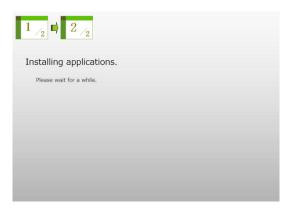
17. Insert the OS installation media into the optical disk drive, and then click OK.

|   | Click OK to proceed to the automatic setup.  |
|---|--|
|   | (30-90 minutes until completion)<br>Do not use the mouse and keyboard during the setup until the |
|   | prompt screen appears.   |
| 2 | [ Message ID : J2004 ]   |
|   |  |
|   |  |
|   |  |
|   |  |

Windows Server 2008 R2 is installed automatically. Wait for completion (about 40 minutes) without performing any operation.

 The Starter Pack and the selected applications are automatically installed. Some Dialog boxes or other messages may appear, but wait for completion without performing any operation.

| operation                |
|--------------------------|
| $1 \sim 2 \sim 2$        |
| Installing Starter Pack. |
| Please wait for a while. |
|                          |
|                          |
|                          |
|                          |
|                          |
|                          |
|                          |
|                          |
|                          |
|                          |
|                          |
|                          |
|                          |



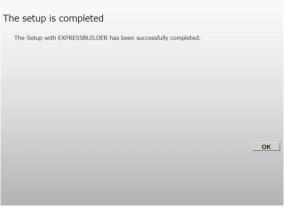
19. When the software license agreement window appears, select **I accept the license terms**, and then click **Start** (Full installations only).

| lease read the l                  | icense terms   |
|-----------------------------------|--|
| MICROSOFT SC                      | FTWARE LICENSE TERMS   |
| MICROSOFT W                       | INDOWS SERVER 2008 R2 STANDARD   |
| where you live,<br>software named | Irms are an agreement between Microsoft Corporation (or based on<br>one of its affiliates) and you. Please read them. They apply to the<br>a dover, which includes the media on which you received it, if any. The<br>to any Microsoft |
| · updates,                        |  |
| · supplement                      | s,   |
| · Internet-bas                    | sed services, and  |
| sunnort ser                       | vices  |
| I accept the licer                | ise terms  |

- 20. When the following message appears, press <Ctrl> + <Alt> + <Del> keys to log on. Press CTRL + ALT + DELETE to log on
- 21. Enter your password you have set in step 12-(1) or 13-(4), and then click 😜



### 22. Click OK.



- 23. See "Chapter 1 (5.5 Checking installation of EXPRESSBUILDER)" to confirm that EXPRESSBUILDER has been installed in Windows.
- 24. Follow the instructions described in *Chapter 1* (5.6 Setting Up Device Drivers) to set up the device drivers.
- 25. Confirm if Windows is activated according to Chapter 1 (5.7 License Authentication).
- 26. Apply Service Pack as needed according to Chapter 1 (5.8 Applying Service Pack).
- 27. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).
- 28. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.

Setup with EXPRESSBUILDER is now complete.

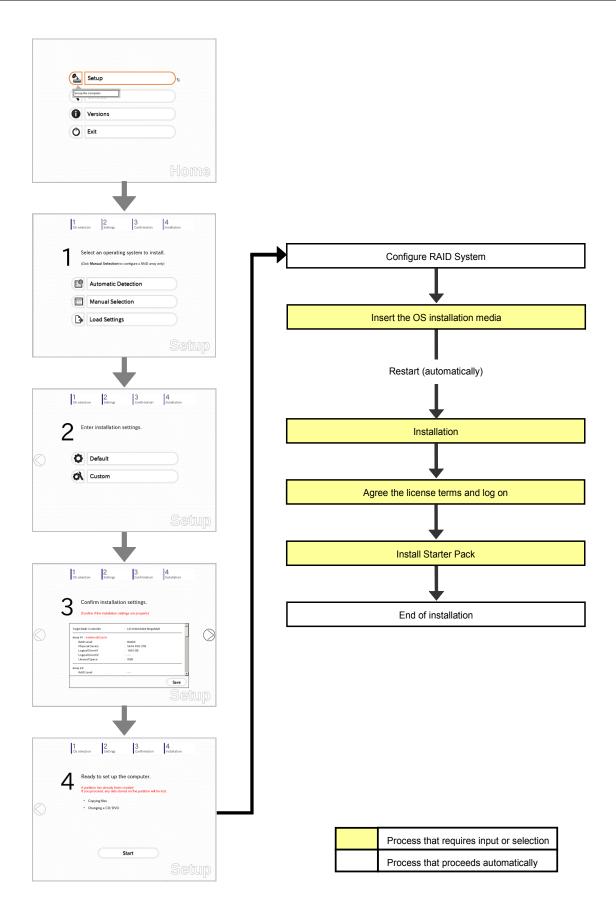
## 5.3 Setup with Windows Standard Installer

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 | <ul> <li>When using an onboard RAID controller (LSI Embedded MegaRAID), set<br/>up the operating system by referring to Chapter 1 (5.2 Setup with<br/>EXPRESSBUILDER). You cannot use Setup with Windows Standard<br/>Installer.</li> <li>Setup with OS standard Installer may delete all data of the hard disk drive<br/>depending on the settings. Pay attention to input parameters. You must be<br/>especially careful when configuring the following: <ul> <li>RAID settings</li> </ul> </li> <li>When re-installing windows, backing up user data, is recommended.</li> <li>Precautions for installation are as follows: <ul> <li>Use EXPRESSBUILDER OVD (optional or on web site). Cannot use<br/>EXPRESSBUILDER on Internal Flash memory (F3 key function).</li> <li>Use an internal optical disk drive on the server when installing.<br/>Cannot use a USB interface drive and remote media feature of<br/>EXPRESSCOPE Engine 3.</li> <li>Use a display, mouse, keyboard, and other devices connected<br/>directly to the server.<br/>Cannot use the remote KVM feature of EXPRESSCOPE Engine 3</li> </ul> </li> <li>Change BIOS setting before starting setup, while refering to Chapter 1 (5.1<br/>Before Starting Setup).</li> </ul> |
|-----------|--|
| Note      | The creation of RAID10 by using the onboard RAID controller (LSI Embedded MegaRAID) is not supported. See <i>Chapter 2 (5. RAID System Configuration)</i> in Maintenance Guide when creating RAID10.   |
|           |  |
| Tips      | <ul> <li>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.</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>.</li> </ul>  |

## *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 R2 DVD-ROM)
- > The following EXPRESSBUILDER
  - EXPRESSBUILDER DVD (option)
- > Prepare if needed:
  - First Steps Guide
  - 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.)

Important Check that internal optical disk drive is connected before installation.

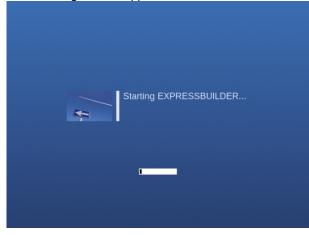
## 5.3.3 Setup procedure

**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).
- Select OS installation \*\*\* default \*\*\*.
   You will automatically advance to step 4, with no need for further input.

| Boot selection  |
|---|
| OS installation and default and                         |
| Tool menu (Normal mode)<br>Tool menu (Redirection mode) |
|   |
|   |
|   |
|   |
|   |
|   |
|   |
| Automatic boot in 10 seconds                            |
|   |
|   |
|   |
|   |

The following window appears.



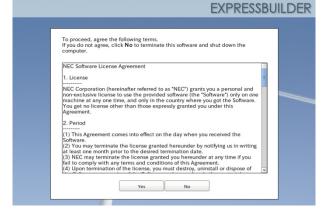
The server starts from EXPRESSBUILDER.



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



5. When the following screen appears, read the contents and click Yes.



6. Click Setup.

| Set up | Setup    | ₽ |
|--------|----------|---|
| •      | Versions |   |
| ٥      | Exit     |   |

7. On the **OS selection** menu, select the OS to install or specify the parameter file.

| 1 2 3 selection Settings Confirmation Installation   |
|--|
| Select an operating system to install.<br>(Click Manual Selection to configure a RAID array only)  |
| Automatic Detection  |
| Manual Selection   |
| Load Settings  |
| Setup  |
| □ When <i>not using</i> a parameter file : Select <b>Automatic Detection</b> , and then go to Step 8.  |
| <ul> <li>□ When <i>using</i> a parameter file</li> <li>□ Select <b>Manual Selection</b>, and then go to Step 9.</li> <li>□ Select <b>Load Settings</b>, and then go to Step 10.</li> </ul> |

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

- 8. When not using a parameter file, let the OS on the installation media be recognized by using the following procedure.
  - 8-(1) Click Automatic Detection.

Note

| 1 2 3 Selection 2 Settings 3 Confirma  | tion Installation   |
|--|---|
| Select an operating system to<br>(Click Manual Selection to configure a RAID |   |
| Automatic Detection  | <i>a</i>  |
| Select an operating system<br>automatically with an installation<br>disc.    |   |
|  | Setup   |
|  | Select an operating system to<br>(Click Manual Selection to configure a RAID<br>(Click Manual Selection to configure a RAID<br>(Click Manual Selection to configure a RAID<br>(Select an operating system<br>(Select an operating system)<br>(Select an operating system) |

8-(2) Insert the OS installation media, and then click **OK**.

| Selection |                                   |                        |                |             |  |
|-----------|-----------------------------------|------------------------|----------------|-------------|--|
|           | installation di<br>LDER will dete | sc.<br>ct the OS you w | vant to instal | I.          |  |
|           |                                   |                        | [ Message II   | D : B2014 ] |  |
| 3         |                                   |                        |                |             |  |
|           |                                   |                        |                |             |  |
|           |                                   |                        |                |             |  |
|           |                                   |                        |                |             |  |
|           | ОК                                | Cancel                 |                |             |  |

- 9. When not using a parameter file, select an OS by using the following procedure.
  - 9-(1) Click Manual Selection.

| 1<br>OS selection                  | 2<br>Settings                      | 3<br>Confirmation | 4<br>Installation |
|------------------------------------|------------------------------------|-------------------|-------------------|
|                                    | an operating sy                    |                   |                   |
|                                    | tomatic Dete                       |                   | )                 |
| Ma                                 | anual Selectic                     | 'n                | _₽                |
| You can select<br>the installation | the target OS of<br>from the menu. |                   |                   |
|                                    |                                    |                   | Setu              |

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

| 18 R2   ≎] |
|------------|
|            |
|            |
|            |
|            |
|            |

9-

|   | 1<br>OS select | ion Settings     | 3<br>Confirmation | 4<br>Installation |            |
|---|----------------|------------------|-------------------|-------------------|------------|
| 1 |                | lect an operatii |                   |                   |            |
|   | e              | Automatic D      | etection          |                   | $\bigcirc$ |
| ~ |                | Manual Sele      | ction             |                   |            |
|   | B              | Load Setting     | s                 |                   |            |
|   |                |                  |                   | Seí               | ඩාත        |

- 10. When using the parameter file, load the parameter file by using the following procedure.
  - 10-(1) Click Load Settings.

| 1<br>OS select | on 2 3<br>Settings          | ition Installation |
|----------------|-----------------------------|--------------------|
|                | lect an operating system to |                    |
|                | Automatic Detection         | D array only)      |
|                | Manual Selection            |                    |
| Þ              | Load Settings               | <i>w</i>           |
| Load ii        | stallation settings.        | Setup              |

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

| laces         | lame   | ✓ Si | e Modified |
|---------------|--------|------|------------|
|               | cdrom1 |      | 05/08/2014 |
| Recently Used |        |      |            |
| i root        |        |      |            |
| 🖁 Desktop     |        |      |            |
| File System   |        |      |            |
| Documents     |        |      |            |
| Music         |        |      |            |
| Pictures      |        |      |            |
| Videos        |        |      |            |
| Downloads     |        |      |            |
|               |        |      |            |
|               |        |      |            |
|               |        |      |            |
|               |        |      |            |
|               |        |      |            |
|               |        |      |            |
|               |        |      |            |

Tips

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

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

|      | lect an operating system to install. |
|------|--------------------------------------|
| - (c |                                      |
|      | Automatic Detection Manual Selection |
| ✓ 🕞  | Load Settings                        |

10-(4) When the parameter file is correctly loaded, click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 12.

Click **Custom** to check and modify the setting in the wizard.  $\rightarrow$  Go to step 11-(1).

|            | 1<br>OS select | ion Settings      | 3<br>Confirmation | 4<br>Installation |            |
|------------|----------------|-------------------|-------------------|-------------------|------------|
|            | 2 "            | nter installation | settings.         |                   |            |
| $\bigcirc$ | Ø              | Default           |                   |                   | $\bigcirc$ |
|            | ~ Ø            | Custom            |                   |                   |            |
|            |                |                   |                   | Set               | tup        |

11. Click Custom.

|            | 1 2 3<br>CS selection Settings Confir        | mation Installation |
|------------|--|---------------------|
|            | 2 Enter installation settings.               |                     |
| $\bigcirc$ | Default                                      |                     |
|            | Custom                                       | <i>p</i>            |
|            | Specify an settings for the<br>installation. |                     |
|            |  | Setup               |

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

| Device Information                                   |     |              |
|--|-----|--------------|
| RAID Controller                                      | :   | Detail       |
| Number of Physical Drives                            | : 2 |              |
| Summary of RAID Array                                |     |              |
| Array #1<br>RAID0 (1disk)<br>Logical Drive1 (1117GB) |     | н ( )<br>( ) |
| Array #2   |     | ×            |
| RAID Configuration                                   |     |              |
| Skip Configuring RAID Arr                            | ау  |              |
|  |     |              |
|  |     | 1 / 11 Page  |
|  |     |              |
|  |     |              |

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 *Chapter 2 (5. RAID System Configuration)* in "Maintenance Guide" when creating RAID10.

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.

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

Choose Use Windows standard installer, and then click Next.

| Windows installation disc.                              | ndard Installer to install Windows by using the installer contained in<br>Ising EXPRESSBUILDER to install both the operating system and |
|---|---|
| Basic Settings<br>Operating system                      | : Windows Server 2008 R2  |
| Use Windows sta   | andard installer  |
| C Install Windows u<br>Edition<br>Language<br>Time Zone | sing EXPRESSBUILDER       : [Standard(Server with a GUI)       : [English       : [MTC-08:00) Pacific Time (US & Canada)                |
|   | 4 / 11 Page   |
| Back  | Next Cancel   |

| Wł | nen the | following | screen | appears, | click | Finish. |
|----|---------|-----------|--------|----------|-------|---------|
|    |         |           |        |          |       |         |

| Click F | ttings are now co<br>inish to close thi | npiete.<br>s window. |              |
|---------|---|----------------------|--------------|
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      |              |
|         |   |                      | 11 / 11 Page |
|         |   |                      |              |
| 1 0     | Back                                    | Finish               | Cancel       |

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

|   | 1<br>OS select | ion Settings      | 3<br>Confirmation | 4<br>Installation |   |
|---|----------------|-------------------|-------------------|-------------------|---|
| 2 | <b>)</b> Er    | nter installation | settings.         |                   |   |
|   | Ø              | Default           |                   |                   | , |
|   | 10             | Custom            |                   |                   |   |

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

| 1      | 1     2     3     4       OS selection     Settings     Confirmation     Installation |
|--------|---|
|        | <b>2</b> Confirm installation settings.   |
|        | (Check if valid installation settings are specified)                                  |
| $\leq$ | Skip configuring RAID array. Operating system : Windows Server 2008 R2                |
|        | (Use Windows standard installer)  |
|        | Copying OEM drivers : No  |
|        | Save  |
|        | Setup   |

Click  $\bigcirc$  on the right side of the screen.

13. The setup process starts.

| Click Sta  | art to contin     | nue setup  | ).                |                   |
|------------|-------------------|--|-------------------|-------------------|
|            | 1<br>OS selection | 2<br>Settings  | 3<br>Confirmation | 4<br>Installation |
|            | 4 A partition     | r to set up the<br>has already been c                  |                   | e lost.           |
| $\bigcirc$ | * Char            | figuring RAID system<br>nging a CD/DVD<br>Illing an OS | 1                 |                   |
|            |                   |  | Start             | Setup             |

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

|   | Insert an O | S installation disc |                  |         |  |
|---|-------------|---------------------|------------------|---------|--|
|   |             |                     | [ Message ID : . | J2000 ] |  |
| 6 |             |                     |                  |         |  |
|   | •           |                     |                  |         |  |
|   |             |                     |                  |         |  |
|   |             |                     |                  |         |  |

- 15. The server reboots automatically.
- 16. Run from the OS installation media.

If OS has already been installed, the message "Press any key to boot from CD or DVD..." is displayed on the top of the screen. Press <Enter> key to boot the system from media.

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 operating system is installed.

17. Click Next at default settings.



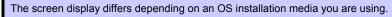
Click Install Now O.
 Windows Server 2008 R2 installation starts.



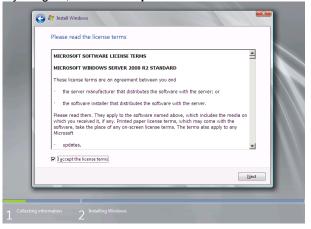
19. <u>Select the edition of the Windows you are going to install</u> and the installation method.

| Operating system   | Architecture | Date modified       |
|--|--------------|---------------------|
| Windows Server 2008 R2 Standard (Full Installation)  | x64          | 7/14/2009           |
| <br>Windows Server 2008 R2 Standard (Server Core Installation)   | x64          | 7/14/2009           |
| Windows Server 2008 R2 Enterprise (Full Installation)  | x64          | 7/14/2009           |
| Windows Server 2008 R2 Enterprise (Server Core Installation)<br>Windows Server 2008 R2 Datacenter (Full Installation)        | x64<br>x64   | 7/14/2009 7/14/2009 |
| Windows Server 2008 R2 Datacenter (Full Installation)<br>Windows Server 2008 R2 Datacenter (Server Core Installation)        | x64<br>x64   | 7/14/2009           |
| Windows Server 2008 R2 Datacenter (Server Core Installation)<br>Windows Web Server 2008 R2 (Full Installation)               | x04<br>x64   | 7/14/2009           |
| Windows Web Server 2008 R2 (For Installation)<br>Windows Web Server 2008 R2 (Server Core Installation)                       | x64          | 7/14/2009           |
| This option installs the complete installation of Windows Server<br>user interface, and it supports all of the server roles. |              |                     |
|  |              |                     |

Tips



20. Read the content of the license agreement. <u>If you agree, select I accept the license terms and then click Next.</u>



21. Select the installation type. Select **Custom (advanced)** in this case.

r

| Which ty   | pe of installation do you want?   |
|------------|---|
| Į,         | Lipgrade<br>Upgrade to a newer version of Windows and keep your files, settings, and programs.<br>The option to upgrade is only available when an existing version of Windows is<br>running. We recommend backing up your files before you proceed.   |
| V          | Custom (advanced)<br>Install new copy of Windows. This option does not keep your files, settings, and<br>programs. The option to make changes to disks and pathitions is available when you<br>start your computer using the installation disc. We recommend backing up your files<br>before you proceed. |
| Help me de | cide  |
|            |   |

22. "Where do you want to install Windows?" window appears. If you are not using RAID Controller, go to Step 26.

When you select Load Driver, the following message appears.

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

Replace the OS installation media with EXPRESSBUILDER DVD in the optical disk drive.

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

N8103-176/177/178 RAID Controller : \011\win\winnt\drivers\01\_storage\1\_an\_01

N8103-188 RAID Controller : \011\win\winnt\drivers\01\_storage\1\_an\_01

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

N8103-176/177/178 RAID Controller : LSI MegaRAID SAS 9362-8i

N8103-188 RAID Controller : LSI MegaRAID SAS 9341-8i

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

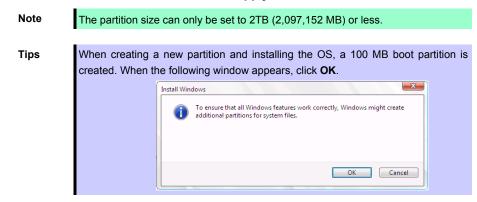
| If you have not replaced the OS installation media after loading the driver, the following message may appear. |
|--|
| ▲ Windows cannot be installed to this disk. (Show details)   |
| If it appears, replace the OS installation media, and then click <b>Refresh</b> .                              |

26. 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 28.

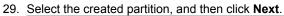
| Name                           |                      | Total Size | Free Space Type |      |
|--------------------------------|----------------------|------------|-----------------|------|
| Disk 0 Unall                   | located Space        | 74.5 GB    | 74.5 GB         |      |
| <u>R</u> efresh<br>Load Driver | X Delete<br>2 Extend | Format     | ₩ Ne <u>w</u>   |      |
|                                |                      |            |                 | Next |

27. Click New.

Enter the partition size into the size text box, and then click Apply.



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



|   | Name                             |                         | Total Size | Free Space            | Туре    |
|---|----------------------------------|-------------------------|------------|-----------------------|---------|
| < | 🥪 🛛 Disk O Partit                | tion 1: System Reserved | 100.0 MB   | 86.0 MB               | System  |
| < | 🌍 🛛 Disk O Partit                | tion 2                  | 39.9 GB    | 39.9 GB               | Primary |
|   | • <u>R</u> efresh<br>Load Driver | Extend                  | Eormat     | <u>∦</u> N <u>e</u> w |         |
|   |                                  |                         |            |                       | N       |

Tips

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

When the following message appears, Windows installation starts automatically.

| 🌠 Install Windows Installing Windows   | 1 |
|--|---|
| That's all the information we need right now. Your computer will restart several times during<br>installation.                 |   |
| Copying Windows files<br>Expanding Windows files (#%)<br>Installing refatures<br>Installing updates<br>Completing installation |   |
|  |   |

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



31. Change your password, and then click the ジ 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 (A - Z), lowercase letters (a - z), and symbols.

32. Click OK.



33. Confirm the following according to the settings selected (displayed) in Step 18.

#### Full installations:

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

| and a |     |   |  |   |        | <u></u>                         |
|-------|-----|---|--|---|--------|---------------------------------|
|       | Pe  | rform the following tasks to configure this | s server                                   |   |        | Windows Server 2008             |
|       | 9   | Provide Computer Information                |  |   | ?      | Specifying computer information |
|       |     | 💦 Activate Windows                          | Product ID:                                | Not activated   |        |                                 |
|       |     | P Set time zone                             | Time Zone:                                 | (UTC-08:00) Pacific Time (US & Canada)  |        |                                 |
|       |     | Scortigure networking                       | Local Area Connection:                     | Not connected   |        |                                 |
|       |     | Provide computer name and domain            | Full Computer Name:<br>Workgroup:          | WIN-Q1SKAJAVAF5<br>WORKGROUP  |        |                                 |
|       | 0   | Update This Server                          |  |   | ?      | Updating your Windows server    |
|       |     | Enable automatic updating and feedback      | Updates:<br>Feedback:                      | Not configured<br>Windows Error Reporting off<br>Not participating in Customer Experience | Improv | ement Program                   |
|       |     | Pownload and install updates                | Checked for Updates:<br>Installed Updates: | Never<br>Never  |        |                                 |
|       | 0   | Customize This Server                       |  |   | ?      | Customizing your server         |
|       |     | 🚯 Add roles                                 | Roles:                                     | None  |        |                                 |
|       |     | Add features                                | Features:                                  | None  |        |                                 |
|       |     | Supervision Service Desistop                | Remote Desktop:                            | Disabled  |        |                                 |
|       |     | Market Configure Windows Firewall           | Firewalk                                   | Public: On  |        |                                 |
|       | - o | lo not show this window at logon            |  |   |        | Close                           |

#### Server Core installations:

The command prompt will appear. Set the user information.

| 🛋 Administrator: C | :\Windows\system32\cmd.exe        |
|--------------------|-----------------------------------|
| C:\Users\Admin     | istrator>                         |
|                    |                                   |
|                    |                                   |
|                    |                                   |
| Tips               | For detailed setup procedures, re |

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

- 34. Install Starter Pack by referring to Chapter 1 (5.4 Installing Starter Pack).
- 35. See "Chapter 1 (5.5 Checking installation of EXPRESSBUILDER)" to confirm that EXPRESSBUILDER has been installed in Windows.
- 36. Install drivers and specify detailed settings by referring to Chapter 1 (5.6 Setting Up Device Drivers).
- 37. Confirm if Windows is activated according to Chapter 1 (5.7 License Authentication).
- 38. Apply Service Pack as needed according to Chapter 1 (5.8 Applying Service Pack).
- 39. Install the applications as needed by referring to Chapter 1 (5.9 Installing the Applications).
- 40. 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

| Important | <ul> <li>Also install Starter Pack in the following cases.         <ul> <li>The motherboard of the server has been replaced<br/>(If a dialog box prompting system reboot is displayed, reboot the<br/>system according to the on-screen instructions, and then apply the<br/>Starter Pack.)</li> <li>If the system was restored using a restore process</li> <li>If a system has been restored using the backup tool</li> </ul> </li> <li>After installing build-in options, you may need installing Starter Pack.<br/>For detail, refer to <i>Chapter 1(5.6 Setting Up Device Drivers)</i>.</li> <li>Select Enabled for XHCI Hand-off after Starter Pack is installed.<br/>See <i>Chapter 2 (1. System BIOS)</i> in Maintenance Guide for details.<br/>Advanced → USB Configuration → XHCI Hand-off → Disabled</li> </ul> |
|-----------|--|
|           |  |
| Note      | <ul> <li>The Scalable Networking Pack (SNP) function is disabled upon Starter Pack installation is complete.<br/>The setting of SNP function may affect the system performance.</li> <li>If you install Starter Pack for the first time after you set up Windows using Standard Installer, see <i>Chapter 5.4.1 Using EXPRESSBUILDER DVD (Option)</i> to install Starter Pack.</li> </ul>  |
|           |  |
| Tips      | <ul> <li>Microsoft .NET Framework Version 3.5.1 is enabled when Starter Pack is applied in full-installation environment.</li> <li>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.</li> </ul>   |

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

## 5.4.1 Using EXPRESSBUILDER DVD(Option)

When you use EXPRESSBUILDER DVD (option), follow the steps below.

### Installation from Windows (Full installations)

- 1. Sign-in to the system with the administrator account.
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.

3. Click Integrated Installation on the menu.

| EXPRESSIUTIDER | SSBL | JILDER                  | NEC                      |
|----------------|------|-------------------------|--------------------------|
|                |      | Instruction Manuals     |                          |
|                | 0    | Versions                |                          |
|                |      | Integrated Installation | $\supset$                |
|                |      | Applications            |                          |
|                |      | Files For Setup         |                          |
|                | 4    | Maintenance             |                          |
|                | Bel  | Exit                    | Version 7.10-000.01(001) |

4. Select Starter Pack on the following screen, and then click Install.

| EXPRESSBUILDER |  |          |               | NEC |
|----------------|--|----------|---------------|-----|
|                | Integrated Installation  |          |               |     |
|                | Install the following software.<br>- Install Starter Pack prior to installing th<br>- Uninstall the application prior to reinsta |          | ion.          |     |
|                | Starter Pack     Gapplications   |          |               |     |
| ( 🖀            | NEC ESMPRO ServerAgentService  | Rev1.22  | Not installed |     |
|                | Express Report Service   | Rev3.5E  | Not installed |     |
| A              | Express Report Service (HTTPS)   | Rev3.6   | Not installed |     |
|                | Microsoft .NET Framework Version 4.0.  | 0        | Not installed |     |
|                | Universal RAID Utility   | Rev4.10  | Not installed |     |
|                | Product Info Collection Utility  | Rev2.9.3 | Not installed |     |
|                | Ezclct Viewer  | Rev2.2.0 | Not installed |     |
|                | NEC ExpressUpdate Agent  | Rev3.18  | Not installed |     |
| (9)            |  |          |               |     |
|                |  |          | Install       |     |

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

| Starter Pa | ack   | × |
|------------|---|---|
| ?          | Setup is going to install Starter Pack.<br>If you install it, click [OK],<br>If you wish to cancel it, click [Cancel].<br>This process disables Scalable Networking Pack(SNP) function.<br>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)

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

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

Installation of Starter Pack is now complete.

Installation from Windows (Server Core Installations)

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

Cd /d D: $011\win\winnt\bin$ 

C:\Users\administrator>cd /d D:\011\win\winnt\bin

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

Pkgsetup.vbs D:\011\win\winnt\bin>pkgsetup.vbs

Wait until installation completes (about 1 to 3 minutes).

Installation of Starter Pack is now complete.

## 5.4.2 Installing Starter Pack using Windows Application

When EXPRESSBUILDER is installed on Windows, you can launch it as a Windows application. See *Chapter 2* (6. *Details of EXPRESSBUILDER*) in *Maintenance Guide*.

Note

If you install Starter Pack for the first time after you set up Windows using Standard Installer, see *Chapter 5.4.1 Using EXPRESSBUILDER DVD (Option)) to install Starter Pack.* 

- 1. Log on to the system with the built-in administrator, which has administrative privileges.
- 2. Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen.
- See Step 3 and the subsequent steps in Chapter 1 (5.4.1 Using EXPRESSBUILDER DVD(Option)) for further procedure.

## **5.5** Checking installation of EXPRESSBUILDER

Confirm that EXPRESSBUILDER has been installed in Windows.

#### (1) Full installation

 Click the shortcut on the desktop or select "NEC EXPRESSBUILDER" from the Windows start screen.

| The following scr | een is displayed.       |                          |
|-------------------|-------------------------|--------------------------|
| EXPRESSBL         | JILDER                  | NEC                      |
|                   | Instruction Manuals     |                          |
| 0                 | Versions                |                          |
| 2                 | Integrated Installation |                          |
|                   | Applications            |                          |
|                   | Files For Setup         |                          |
| ٩                 | Maintenance             |                          |
|                   | Exit                    |                          |
|                   |                         | Version 7.10-000.01(001) |

2. Click "Exit" to quit the menu.

Check is now complete.

#### (2) Server Core Installation

Enter the following at the command prompt and press the <Enter> key.
 eb\_cli.exe 'show /repository'

The following steps are not required when a folder path is displayed after "RepositoryPath=". Go to step 2 when the following message is displayed.

The repository has not been created. After creating the repository by "load /repository", please run again.

Enter the following at the command prompt and press the <Enter> key.
 Wait for a while until the command is completed.
 eb\_cli.exe 'load /repository'

Check is now complete.

## **5.6** 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.

## 5.6.1 Installing the LAN drivers and teaming utility (PROSet / BACS / QCS)

#### (1) LAN drivers and teaming utility

For the system that network adapter is connected, if it is setup with EXPRESSBUILDER, the LAN driver and teaming utility will automatically be installed.

For the system that network adapter is connected, if it is setup with Windows standard installer, apply Starter Pack to install the LAN driver and teaming utility.

|      | Wake On LAN (WOL) is supported by the standard network adapters only.<br>Wake On LAN will be able to be used in the state after the installation of the<br>LAN Driver. For BIOS settings, check the "User's Guide".   |
|------|---|
| Note | <ul> <li>To change the LAN driver and teaming utility settings, log on to the system from a local console using an administrator's account.<br/>Remotely changing the settings by using the operating system's remote desktop feature is not supported.</li> <li>Be sure to select the Internet Protocol (TCP/IP) check box when specifying an IP address.</li> </ul> |

#### (2) Optional LAN board

This server supports the following optional LAN boards.

Note

Optional LAN boards: N8104-145/149/150/151/152

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

The LAN driver is not installed if N8104-145/149 is not connected to the server before setup with EXPRESSBUILDER or applying Starter Pack.

Perform the steps below to install the N8104-145/149 LAN driver manually.

#### N8104-145

When Intel(R) Network Connections 19.1.51.0 is shown to Programs and Features, this step is unnecessary.
If the LAN driver has been installed in N8104-145, PROSet is also installed.

1. Start command prompt and then open the folder under the system drive (drive C), and then enter the following file, and run the file.

C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers \02\_network\1\_ag\_01\install\_ws2008r2.bat

If using EXPRESSBUILDER DVD (option), run the following file on the DVD.

\011\win\winnt\drivers\02\_network\1\_ag\_01\install\_ws2008r2.bat

2. When the following message appears, restart the system.

Intel Driver Installation Completed!

 When LAN board is new addition, setting each LAN board by referring to Chapter 1(5.6.2 Setting up LAN drivers).

Setup is now completed.

### N8104-149

Note

- When QLogic Driver Installer is shown to Programs and Features, this step is unnecessary.
  - If the LAN driver has been installed in N8104-149, QCS is also installed.
- 1. Start command prompt and then open the folder under the system drive (drive C), enter the following file, and run the file.

C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers \02 network\1 as 02\install ws2008r2.bat

#### If using EXPRESSBUILDER DVD (option), run the following file on the DVD.

\011\win\winnt\drivers\02 network\1 as 02\install ws2008r2.bat

2. When the following message appears, restart the system.

QLOGIC Driver Installation Completed!

 When LAN board is new addition, setting each LAN board by referring to Chapter 1(5.6.2 Setting up LAN drivers).

Setup is now completed.

#### (3) Network adapter name

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

### Network adapters for the standard configuration:

Broadcom NetXtreme Gigabit Ethernet #xx (\*1)

#### If connecting with an optional LAN board:

N8104-145 : Intel(R) Ethernet Server Adapter I340-T2 #xx (\*1)

N8104-149 : QLogic BCM57810 10 Gigabit Ethernet (NDIS VBD Client) #xx (\*1)

N8104-150/151/152 : Broadcom NetXtreme Gigabit Ethernet #xx (\*1)

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

Tips

The ID for N8104-149 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.

## *5.6.2* 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

When using N8104-149, you can specify "10 Gb Full" for network adapter and "Auto Negotiation" to switching hub.

- 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.
- Select Advanced or Link Speed tab, set the Speed & Duplex values to the same as those of the switching hub.
- 4. Click OK.
- 5. Restart the system.

The link speed setting is now complete.

#### (2) When using N8104-150/151/152

When using N8104-150/151/152 with the server, follow the procedure below to set it.

- 1. Run the following file on the system drive (drive C).
  - C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers

\02\_network\1\_ah\_02\pgdyavd\_disable.vbs

If using EXPRESSBUILDER DVD (option), run the following file on the DVD.

\011\win\winnt\drivers\02\_network\1\_ah\_02\pgdyavd\_disable.vbs

#### 2. 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.

3. Restart the system.

Setup is now completed.

## 5.6.3 Setting up team (PROSet)

Described below are procedures to setup and remove the team composed of network adapters.

This feature is available for optional LAN card N8104-145.

#### (1) Team types

The following team types are supported.

• Adapter Fault Tolerance (AFT)

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)

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.

• Static Link Aggregation (SLA)

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.

• Switch Fault Tolerance (SFT)

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.

| Note | <ul> <li>For how to delete an adapter team, refer to Chapter 1 (5.6.3 Setting up team (PROSet) <ul> <li>(3) Procedure for deleting team).</li> </ul> </li> <li>Check the following points when deleting an adapter team. <ul> <li>When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.</li> <li>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.</li> </ul> </li> <li>Do not configure a team with network adapter that is using iSCSI feature.</li> <li>Be sure to set up LiveLink when creating a team in the following cases. <ul> <li>Smart Load Balancing and Failover (without Standby Member)</li> <li>Smart Load Balancing (Auto-Failback Disable) (with Standby Member) using more than two network adapters</li> </ul> </li> <li>When using Smart Load Balancing (Auto-Failback Disable) (with Standby Member) using two network adapters, setup for LiveLink is not essential.</li> <li>When configuring Created AFT or ALB by using two network adapters, disable probes by referring to the following procedure.</li> <li>Copen the Device Manager.</li> <li>Expand Network adapters and double-click the team adapter. The properties of network adapter is displayed.</li> <li>Select the Advanced tab.</li> <li>Select Probes, and then click Properties. The Probe is displayed.</li> </ul> |
|------|---|
|      | 6. Click <b>OK</b> , and then restart the system.   |
|      |   |

#### (2) Setting up team

- 1. Open the Device Manager.
- 2. Expand **Network adapters** and double-click the network adapter to setup a team. The properties of network adapter is displayed.
- 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 type, and then click Next.
- 7. Click Finish.

The property of team is displayed.

- 8. On the Property window, click [Settings] tab and click [Modify Team].
- 9. Perform the following procedure to set the team member adapter priority status.
  - Set Primary
  - Select the adapter and click [Set Primary].
  - Set Secondary Select the adapter and click [Set Secondary].

When primary and secondary adapters are specified, click OK to close the window.

- TipsAdapter priority can be confirmed by the following procedure:1)Click Settings tab in team adapter properties.2)Confirm Primary/Secondary specified for each adapter 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. If you are using SFT (Switch Fault Tolerance), go to Step 11 because **Test Switch** is not supported.

| Note      | Before running the test, confirm whether the adapter status is "Active" or "Standby" on the <b>Settings</b> tab. If any error is displayed, read the message and change the setting of the switching hub.<br>Also make sure that all adapters in team are linked up. |
|-----------|--|
| Important | Even if the test result is correct, the message below may appear.<br>Check the setting of the switching hub (L2) port. If no problem is found, ignore the<br>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.  |
|           | Change team type to SLA, reconfigure the switch for link aggregation, or disable VLAN tagging on the switch.   |

11. Restart the system.

Setup Teaming is now complete.

### (3) Procedure for deleting team

- 1. Open the Device Manager.
- 2. Expand **Network adapters** and double-click the team adapter. The properties of network adapter is displayed.
- 3. Click the **Setting** tab, then click **Remove Team**.
- 4. Click Yes to the popup message.
- 5. Confirm that the **TEAM:** "*Team name*" adapter does not exist in the **Network adapters** tree of **Device** Manager.
- 6. Restart the system

Removing team is now complete.

## 5.6.4 Setting up team/LiveLink (BACS/QSC)

This section describes procedures for creating and deleting team, and for configuring LiveLink.

The supported network adapters are as follows:

- BACS teaming : Standard network adapters
  - N8104-150/151/152

Note

- QCS teaming : N8104-149
  - For how to delete an adapter team, refer to Chapter 1 (5.6.4 Setting up team/LiveLink (BACS/QSC) (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

#### • 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-Fallback Disable) (with Standby Member)

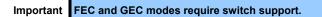
Among the adapters that compose the team, primary adapters except the standby member perform communication.

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 combining of multiple adapters into a single channel to provide greater bandwidth. Connect the server with several physical links to make them look like a single logical link. This can improve transmission throughput and can provide redundancy.



#### (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.

| Note | <ul> <li>When using Smart Load Balancing and Failover (without Standby Member), be sure to set up LiveLink at creation of a team.</li> <li>When using Smart Load Balancing (Auto-Fallback Disable) (with Standby Member) by three or more network adapters be sure to set up LiveLink at creation of a team.</li> </ul> |
|------|---|
| Tips | <ul> <li>When using Smart Load Balancing (Auto-Fallback Disable) (with Standby Member), setup for LiveLink is not essential.</li> <li>LiveLink is not supported with FEC/GEC mode.</li> </ul>   |

#### (3) Setting up team/LiveLink

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. Start the teaming utility on the Control Panel window.

In case of **BACS**, **Broadcom Control Suite** is double-clicked. In case of **QCS**, **QLogic Control Suite** is double-clicked.

Tips

Use icon view on Control Panel.

 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. The Broadcom Teaming wizard appears.

3. Click Next.

#### Note

Do not use Expert Mode. It is not supported.

- 4. Enter any name into the team name entry column, and then click Next.
- 5. Under Team Type, select the type of team you want to create, and then click Next.

| Note • | 802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP) is not supported.   |
|--------|---|
| •      | <ul> <li>When FEC/GEC Generic Trunking is selected, the following message will appear. Confirm the settings on switching hub, and click OK.</li> <li>"Verify that the network switch connected to the team members is configured correctly for the team type."</li> <li>When using Hyper-V, select Enable HyperV Mode.</li> </ul> |

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

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.
  - Smart Load Balancing (Auto-Fallback 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.

Note

- Important The operation when Auto-Fallback Disable mode is unchecked is not supported.
- (4) Click Next.

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

- 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.
- 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.

| Tips | • 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).  |
|      | <ul> <li>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.</li> <li>When using Tagged VLAN, input the VLAN ID for <b>Probe VLAN ID</b>.</li> </ul> |

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

#### 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.

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

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

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**. Below is an example when you do not want to use the VLAN.
- 16. Make sure that **Commit changes to system and Exit the wizard** is selected under **Commit changes**, and then click **Finish**.

| Note | When the message below appears, select Yes.<br>"Applying the changes will temporarily interrupt the network<br>connection. The process may take several minutes and the<br>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.<br>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. |

#### 17. Restart the system.

Team setup is now complete.

#### (4) Procedure for deleting team

| Note | You must delete teams from <b>BACS</b> or <b>QCS</b> .<br>You cannot delete the team from the team adapter displayed in the <b>Device</b><br><b>Manager</b> . |
|------|---|
|------|---|

1. Start the teaming utility on the Control Panel window.

In case of **BACS**, **Broadcom Control Suite** is double-clicked. In case of **QCS**, **QLogic Control Suite** is double-clicked.

Tips

Note

Use icon view on Control Panel.

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.

3. Run the following file on the system drive (drive C).

C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers \02 network\1 ah 02\addlvlanstats.vbs

If using EXPRESSBUILDER DVD (option), run the following file on the DVD. \011\win\winnt\drivers\02 network\1 ah 02\addlvlanstats.vbs

4. When the following message appears, click OK.

Registry Addition Completed, Reboot the system.

5. Restart the system.

Team deletion is now complete.

## *5.6.5* Graphics accelerator driver

The graphics accelerator driver for standard configurations is installed when an OS is installed using EXPRESSBUILDER, or 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 install drivers separately, complete the following steps.

- 1. Double-click the install.bat icon in the following folder.
  - If Starter Pack was installed from Internal Flash Memory:
     C:\Program Files(x86)\EXPRESSBUILDER\repository\011\win\winnt\drivers
     \03\_graphic\1\_aj\_01\install.bat
  - When using EXPRESSBUILDER DVD (option): \011\win\winnt\drivers\03\_graphic\1\_aj\_01\install.bat
- You will be prompted to confirm the End User License Agreement during this process. Click the ACCEPT button to continue.

Restart the system.

Graphic accelerator driver installation is now complete.

## *5.6.6* When using a SAS controller (N8103-142)

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

### 5.6.7 When using a RAID Controller (N8103-179)

The driver for RAID Controller N8103-179 is automatically installed by Windows Plug-and-Play.

#### 5.6.8 When using a Fibre Channel controller (N8190-157A/158A/159/160)

The driver for Fibre Channel controller N8190-157A/158A/159/160 is automatically installed by Windows Plug-and-Play.

If the Fibre Channel controller N8190-157A/158A/159/160 is installed after the OS has been installed, you need to install Starter Pack again.

## **5.7** License Authentication

License Authentication is required to use Windows Server 2008 R2. Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

### (1) Full installation

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   | it your computer                                    |                  |
| Device Manager           | Windows edition              |   |                  |
| Remote settings          | Windows Server 2008 R2 St    | andard  |                  |
| Advanced system settings | Copyright © 2009 Microsoft   | Corporation. All rights reserved.                   |                  |
|                          | System                       | Intel(R) Xeon(R) CPU E5506 @ 2.13GHz :<br>4.00 GB   | 2.13 GHz         |
|                          | 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-RO6HQKR5EQ4                                     | Change setting   |
|                          | Full computer name:          | WIN-RO6HQKR5EQ4                                     |                  |
|                          | Computer description:        |   |                  |
|                          | Workgroup:                   | WORKGROUP   |                  |
|                          | Windows activation           |   |                  |
|                          | Windows is activated         |   | ask for .        |
| See also                 | Product ID: xxxxx-xxx-xxx-   | xxxx-xxxxx  | genuine          |
| Action Center            |                              |   | Learn more onlin |
| Windows Update           |                              |   | ccontrate one    |

2. If Windows is installed from Backup DVD-ROM, replace the product key.

When the following window appears, click Change product key.

| 🕞 🗢 🖼 🔹 Control Panel 👻                     | System and Security  | •   | Search Cont              | rol Panel               |  |
|---|--|---|--------------------------|-------------------------|--|
|   | TCH DUSK INVITIATION UDV   | ac your compacer  |                          |                         |  |
| Control Panel Home                          | Windows edition  |   |                          |                         |  |
| Device Manager                              | Windows Server 2008 R2 S   | tandard   |                          | $\bigcirc$              |  |
| -   | Copyright © 2009 Microsoft Corporation. All rights reserved.   |   |                          |                         |  |
| Remote settings<br>Advanced system settings |  |   |                          |                         |  |
| Hartancea system secangs                    |  |   |                          |                         |  |
|   | System   |   |                          |                         |  |
|   | Processor:   | Intel(R) Xeon(R) CPU  | E5506 @ 2.13GHz          | 2.13 GHz                |  |
|   |  |   |                          |                         |  |
|   | Installed memory (RAM):  | 4.00 GB   |                          |                         |  |
|   | Installed memory (RAM):<br>System type:  | 4.00 GB<br>64-bit Operating System  |                          |                         |  |
|   |  |   | vailable for this Displa | зу                      |  |
|   | System type:   | 64-bit Operating System<br>No Pen or Touch Input is a   | vailable for this Displa | зу                      |  |
|   | System type:<br>Pen and Touch:   | 64-bit Operating System<br>No Pen or Touch Input is a   | vailable for this Displa | ay<br>igChange settings |  |
|   | System type:<br>Pen and Touch:<br>Computer name, domain, and w   | 64-bit Operating System<br>No Pen or Touch Input is a<br>orkgroup settings  | vailable for this Disple |                         |  |
|   | System type:<br>Pen and Touch:<br>Computer name, domain, and w<br>Computer name:   | 64-bit Operating System<br>No Pen or Touch Input is a<br>orkgroup settings<br>WIN-RO6HQKR5EQ4                                 | vailable for this Disple |                         |  |
|   | System type:<br>Pen and Touch:<br>Computer name, domain, and w<br>Computer name:<br>Full computer name:  | 64-bit Operating System<br>No Pen or Touch Input is a<br>orkgroup settings<br>WIN-RO6HQKR5EQ4                                 | vailable for this Displa |                         |  |
| See also                                    | System type:<br>Pen and Touch:<br>Computer name, domain, and w<br>Computer name:<br>Full computer name:<br>Computer description:               | 64-bit Operating System<br>No Pen or Touch Input is a<br>orkgroup settings<br>WIN-RO6HQKR5EQ4<br>WIN-RO6HQKR5EQ4              | vailable for this Disple |                         |  |
| See also<br>Action Center                   | System type:<br>Pen and Touch:<br>Computer name, domain, and w<br>Computer name:<br>Full computer name:<br>Computer description:<br>Workgroup: | 64-bit Operating System<br>No Pen or Touch Input is a<br>orkgroup settings<br>WIN-ROGHQRRSEQ4<br>WIN-ROGHQRRSEQ4<br>WORKGROUP |                          |                         |  |

3. Enter the product key found on the COA label, and then click Next.

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

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

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

Windows activation is now complete.

#### (2) Server Core installation

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.



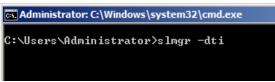
2. If Windows is installed from Backup DVD-ROM, replace the product key.

At the command prompt, enter the following, and then press <Enter> key. Specify 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. View the following file to confirm the telephone number of the license authentication customer service.

C:\Windows\system32\sppui\phone.inf (where C: is system drive.)

- 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: G\Windows\system32\cmd.exe

<u>en</u> Administrator: C:\Windows\system32\cmd.exe C:\Users\Administrator>slngr -atp XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

Windows activation is now complete.

## **5.8** 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

## **5.9** Installing the Applications

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.
- Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen. Or, Insert the EXPRESSBUILDER DVD (option) into the optical disk drive.
- 3. Click Integrated Installation on the menu.

| EXPRES | SSBL       | JILDER                  | NEC                      |
|--------|------------|-------------------------|--------------------------|
|        |            | Instruction Manuals     |                          |
|        | 0          | Versions                |                          |
|        | -          | Integrated Installation |                          |
|        |            | Applications            |                          |
|        | ۳          | Files For Setup         |                          |
|        | ٩          | Maintenance             |                          |
|        | ₿ <b>k</b> | Exit                    | Version 7.10-000.01(001) |

4. On the following screen, select **Applications** option.

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

| Integrated Installation  |          |               |       |
|--|----------|---------------|-------|
| Install the following software.<br>- Install Starter Pack prior to installing th<br>- Uninstall the application prior to reinstall<br>C Starter Pack |          | ion.          |       |
| • Applications   |          |               |       |
| NEC ESMPRO ServerAgentService  | Rev1.22  | Not installed |       |
| Express Report Service   | Rev3.5E  | Not installed |       |
| Express Report Service (HTTPS)   | Rev3.6   | Not installed |       |
| Microsoft .NET Framework Version 4.0.  | 0        | Not installed |       |
| Universal RAID Utility   | Rev4.10  | Not installed |       |
| Product Info Collection Utility  | Rev2.9.3 | Not installed |       |
| Ezclct Viewer  | Rev2.2.0 | Not installed |       |
| NEC ExpressUpdate Agent  | Rev3.18  | Not installed |       |
|  |          | In            | stall |

Note

• Applications available for installation are selected by default.

• 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 **OK**, and then remove the EXPRESSBUILDER disk from the optical disk drive.
- 6. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.

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) Setup procedure

- Setup with EXPRESSBUILDER

 Important
 Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not used for setup, if the server has two or more RAID Controllers installed.

> Disconnect an external disk (\*) from the server by turning the power of it off or disconnecting cables. Install those hard disk drives and cables after setup has completed. Conducting setup with those being connected with the server may cause existing data to be erased unintentionally.

\* Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit

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.
  - 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.

 For details, refer to the following Microsoft website: <u>http://support.microsoft.com/kb/937251/en-us</u>
 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.

 Refer to Chapter 1 (5.3 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.

- 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 Yes.

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

8. Close the Server Manager.

Now changing drive letter is completed.

# **6.** Setup for Solving Problems

We recommend installing the following features for solving the server failure quickly.

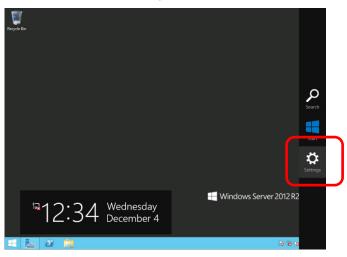
## 6.1 Specifying Memory Dump Settings (Debug Information)

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

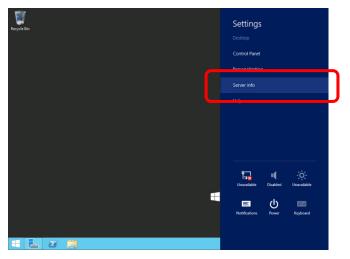
Important Do not reset during dumping memory or restarting the server even if the message of virtual memory shortage appears.

## 6.1.1 For Windows Server 2012 R2 / Windows Server 2012

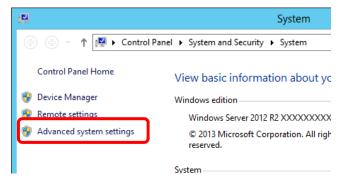
1. On Charms Bar, click Settings.



2. Click Server info.



3. Click Advanced system settings.



### 4. 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. |
| Performance  |
| Visual effects, processor scheduling, memory usage, and virtual memory   |
| Settings   |
| User Profiles  |
| Desktop settings related to your sign-in                                 |
|  |
| Settings   |
| Startup and Recovery   |
| System startup, system failure, and debugging information                |
| Settings   |
| Environment Variables  |
| OK Cancel Apply  |

5. Type the path to a dump file in **Dump file**, and then click **OK**.

<Example for specifying "MEMORY.DMP" on drive D>

| Startup and Recovery  |
|---|
| System startup<br>Default operating system:<br>Windows Server 2012 R2<br>Time to display list of operating systems:<br>Time to display recovery options when needed:<br>30 \$ |
| System failure  Write an event to the system log  Automatically restart  Write debugging information  Automatic memory dump  Dump file:  D: [MEMORY.DMP]  Overwrite any existing file   |
| OK Cancel   |

Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump for Write debugging information.
- Specify a drive that has a free space of at least "(total size of physical memory) + 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 save the debug information is sufficient.
- 6. In Performance, click Settings.

The **Performance Options** window will appear.

| System Properties  |
|--|
| 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>et</u> tings  |
| Startup and Recovery   |
| System startup, system failure, and debugging information                |
| Seţtings   |
| Environment Variables  |
| OK Cancel Apply  |

7. Click the Advanced tab on the Performance Options window. In Virtual memory, click Change.

| Performance Options ×   |
|---|
| Visual Effects Advanced Lata Execution Prevention                                 |
| Processor scheduling<br>Choose how to allocate processor resources.               |
| Adjust for best performance of:   |
| Programs     O Background services  |
| Virtual memory  |
| A paging file is an area on the hard disk that Windows uses as<br>if it were RAM. |
| Total paging file size for all drives: 4096 MB                                    |
|   |
|   |
|   |
|   |
|   |
|   |
| OK Cancel Apply   |

8. Clear the Automatically manage paging file size for all drives check box, and then click Custom size.

| Virtual Memory  | x |
|---|---|
| <u>A</u> utomatically manage paging file size for all drives                          |   |
| Paging file size for each drive<br><u>D</u> rive [Volume Label] Paging File Size (MB) |   |
| C: System managed   |   |
|   |   |
|   |   |
| Selected drive: C:<br>Space available: 38852 MB                                       |   |
| O Custom size:  |   |
| Initial size (MB):  |   |
| Maximum size (MB): 7118   |   |
| ○ System managed size   |   |
| ○ <u>N</u> o paging file <u>S</u> et  |   |
| Total paging file size for all drives   |   |
| Minimum allowed: 16 MB  |   |
| Recommended: 3559 MB  |   |
| Currently allocated: 4096 MB  |   |
| OK Cancel   |   |

9. In **Paging file size for each drive**, type a size equal or larger than the recommended size for **Initial size**, and a size larger than **Initial size** for **Maximum size**, and then click **Set**.

| Virtual Memory X  |
|---|
| <u>A</u> utomatically manage paging file size for all drives     Paging file size for each drive <u>Drive [Volume Label] Paging File Size (MB)     C:     System managed </u> |
| Selected drive: C:<br>Space available: 38852 MB   |
| Custom size:<br>Initial size (MB): 3559<br>Maximum size (MB): 7118  |
| ○ System managed size       ○ No paging file  |
| Total paging file size for all drives<br>Minimum allowed: 16 MB<br>Recommended: 3559 MB<br>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 size of physical memory) + 400MB or more" is enough to save the dump file.
- Make sure to specify a sufficient paging file size "recommended size: (total size of physical memory) x 1.5 or more".
- See "System Partition" in Chapter 1 (Before Starting Setup) for recommended value.
- When DIMM is added, re-specify the paging file according to the increased memory size.

#### 10. Click OK.

If a message to restart Windows appears, restart the server according to on-screen message.

Specification of the memory dump settings is now complete.

## 6.1.2 For Windows Server 2008 R2

1. On the Start menu, click Control Panel.

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.
- 4. Click **Advanced system settings**. The System Properties dialog box will appear.
- 5. Click the Advanced tab, and then click Settings in Startup and Recovery.
- 6. Type the path to a dump file in **Dump file**.

Note the following when specifying a dump file.

- We recommend specifying **Complete memory dump** for **Write debugging information**. If the mounted memory size is greater than 2 GB, **Complete memory dump** cannot be specified because it is not displayed on the menu. In this case, specify **Kernel memory dump** instead.
- Specify a drive that has a free space of at least "(total size of physical memory) + 300 MB".
- The size of the debug information (memory dump) changes when a 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.
- 8. Click the **Advanced** tab in the Performance Options dialog box, and click **Change** in **Virtual memory**.
- 9. Clear the Automatically manage paging file size for all drives check box, and then click Custom size.
- 10. In Paging file size for each drive, specify as follows:

For the **Initial size** text box, type a size 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 size 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 initial size of the paging file in Windows partition (usually drive C) must be large enough to save dump files.
- Make sure to set a sufficient paging file size.
- For details about the Recommended size, see System partition size in Chapter 1 (4.1 Before Starting Setup).
- When DIMM is added, re-specify the paging file according to the increased memory size.
- 11. Click OK.

If a message to restart Windows appears, restart the server according to on-screen message.

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 debugging information if an application error occurs.

You can get a user-mode process dump file using the following procedures without closing the pop-up window that reported the error:

## 6.2.1 For Windows Server 2012 R2 / 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.

| P             | Task Manager             | _ <b>D</b> X     |
|---------------|--------------------------|------------------|
|               | There are no running app | s                |
|               |                          |                  |
|               |                          |                  |
|               |                          |                  |
|               |                          |                  |
|               |                          |                  |
|               |                          |                  |
|               |                          |                  |
|               |                          |                  |
| More <u>c</u> | details                  | <u>E</u> nd task |

- 3. Click the **Processes** tab.
- 4. Right-click the name of the process that you want to get debugging information, 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
```

|                      | older i | s not  | displayed,           |             |          |              | Hidden items     |                      | <b>∕iew</b> ta |
|----------------------|---------|--------|----------------------|-------------|----------|--------------|------------------|----------------------|----------------|
| File                 | Home    |        | View<br>Medium icons | Small icons | <b>.</b> |              | Item check boxes |                      | ^ (?)          |
| Navigation<br>pane 🕶 |         | , punc | Tiles                | Content     | Ŧ        | Sort<br>by ▼ | Hidden items     | de selected<br>items | Options<br>•   |

Get the user-mode process dump file from the folder shown in step 5.

## 6.2.2 For Windows Server 2008 R2

- 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 debugging information, 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

If the folder is not displayed, perform the following: Open Explorer, click **Organize** and then **Folder and search options**. Click the **View** tab and then select **Show hidden files, folders, and drives**.

Get the user-mode process dump file from the folder shown in step 4.

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

- 1. Download Network Monitor from the following web site: <u>http://support.microsoft.com/kb/933741/en-us</u>
- Run the downloaded file to start the installer.
   Follow the onscreen instructions to install Network Monitor.

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

Create a parameter file by configuring setup information required for OS installation.

If a parameter file is used when performing Setup with EXPRESSBUILDER, you can re-install an OS with settings used at the previous installation. It is therefore recommended to use a parameter file to set up the server.

# 7.1 Creating Windows OS Parameter File

| Note | Do not remove EXPRESSBUILDER DVD from the drive while creating a parameter file. |
|------|--|
|      |  |
| Tips | Create a parameter file on Internet Explorer 7 or later.                         |

- 1. Start Windows on the server or another computer.
- For the server, run NEC EXPRESSBUILDER from the shortcut or the Start screen. For another computer, insert the EXPRESSBUILDER DVD into the optical disk drive. Use Windows Autorun feature to launch program.
- 3. Click Files For Setup on the menu.

|           | NEC EXPRESSBUILDER      |                          |
|-----------|-------------------------|--------------------------|
| EXPRESSBL | JILDER                  | NEC                      |
|           | Instruction Manuals     |                          |
| 0         | Versions                |                          |
| 2         | Integrated Installation |                          |
|           | Applications            |                          |
|           | Files For Setup         | $\supset$                |
| 4         | Maintenance             |                          |
|           | Exit                    | Version 7.10-000.01(001) |

4. Click Parameter file for Windows OS.

| EXPRE | ESSBUILDER NEC                |
|-------|-------------------------------|
|       | Files for Setup               |
| 0     |                               |
| F     |                               |
|       | Parameter file for Windows OS |
|       |                               |
| B     |                               |
|       |                               |

- 5. On the **OS selection** menu, select the OS to install or specify the parameter file.
  - $\Box$  Not using a parameter file  $\ :$  Go to Step 6.
  - □ Using a parameter file : Go to Step 7.
- 6. To create a parameter file, select an OS from the menu by using the following procedure.
  - 6-(1) Click Manual Selection.

| • | Create a parameter file for Windows   | ×        |
|---|---|----------|
|   | 1 2 3<br>OS selection Settings Confi  | irmation |
| 1 | Select an operating system to in<br>(Choose Manual Selection when configuring a |          |
|   | Manual Selection  |          |
|   | Choose the operating system manually.   |          |
|   |   | Satura   |
|   |   | aerab    |

6-(2) From the Windows list, select OS, and then click OK.

|             | Create a                    | parameter file for | Windows         |      | _ |
|-------------|-----------------------------|--------------------|-----------------|------|---|
|             | 0S selection                |                    |                 |      |   |
| 3 Selection |                             |                    |                 |      |   |
|             | Select an operati           | ing system to ins  | tall.           |      |   |
|             | <ul> <li>Windows</li> </ul> | Windows Se         | erver 2012 R2 🔽 |      |   |
| 0           | O RAID Config               | uration Only       |                 |      |   |
| - T         |                             |                    |                 |      |   |
|             |                             |                    |                 |      |   |
|             |                             |                    |                 |      |   |
|             | c                           | ок                 | ancel           |      |   |
|             |                             |                    |                 | Setu |   |

6-(3) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 8.

| f s | elect an operating sy       | stem to install      |             |
|-----|-----------------------------|----------------------|-------------|
| (c  | hoose Manual Selection when | n configuring a RAID | array only) |
| •   | Manual Selection            | n                    |             |
| Þ   | Load Settings               |                      |             |
|     |                             |                      |             |

7. To modify a parameter file, load the parameter file by using the following procedure. 7-(1) Click Load Settings

| u Settings.   |         |
|---|---------|
| <br>Create a parameter file for Windows   | X       |
| 1 2 3 selection Settings 3 Confirmation   |         |
| Select an operating system to install.<br>(Choose Manual Selection when configuring a RAID arra | y only) |
| Manual Selection  |         |
| Load Settings   | )       |
|   | Seturo  |

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

| Look in:                | Documents | • | 🗕 🗄 I    | ➡ 🎫       |  |
|-------------------------|-----------|---|----------|-----------|--|
| Name                    | *         |   | Date mo  | dified    |  |
| sa.tre                  |           |   | 6/11/201 | 4 1:34 PM |  |
|                         |           |   |          |           |  |
| 4                       |           |   |          |           |  |
| <                       |           |   |          |           |  |
| <<br>File <u>n</u> ame: | III       |   |          | Open      |  |

7-(3) Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 11. 1 2 OS selection Settings 3 Confirmation Select an operating system to install. se Manual Selection when configuring a RAID array only) (Ch Manual Selection

✓ → Load Settings

8. Specify the setup parameters by using either of the following methods:
 Default :Go to step 9
 Custom :Go to step 10.

| •          |     | Create a     | a parameter file fo | r Windows         | ×     |  |
|------------|-----|--------------|---------------------|-------------------|-------|--|
|            | ć   | )S selection | 2<br>Settings       | 3<br>Confirmation | 1     |  |
|            | 2 ▫ | ter install  | lation setting      | gs.               |       |  |
| $\bigcirc$ | Ø   | Default      | :                   |                   |       |  |
|            | Ø   | Custom       | n                   |                   |       |  |
|            |     |              |                     |                   |       |  |
|            |     |              |                     |                   | Setup |  |

9. Click Default.

| •          |   | Create a                 | parameter file fo | r Windows         | ×         |
|------------|---|--------------------------|-------------------|-------------------|-----------|
|            | ļ | <b>1</b><br>DS selection | 2<br>Settings     | 3<br>Confirmation |           |
|            |   | nter install             | ation setting     | gs.               |           |
|            | 2 |                          |                   |                   |           |
| $\bigcirc$ | 0 | Default                  |                   |                   |           |
|            | Ø | Custom                   | 1                 |                   | $\square$ |
|            |   |                          |                   |                   |           |
|            |   |                          |                   |                   |           |
|            |   |                          |                   |                   | Setup     |

9-(1) Select an edition of the OS in the **Edition** list. Type a password, and then click **Finish**.

|   | Create a parameter file for Windows  | × |
|---|--|---|
| [ | Wizard   |   |
|   | Enter the minimum settings to set up the computer.<br>Click <b>Custom</b> if you want to use the Windows standard installer. |   |
|   | Basic Settings<br>Operating system : Windows Server 2012 R2  |   |
|   | Edition : Standard(Server with a GUI)  Language : English  |   |
|   | Password Settings<br>Administrator Password : (Required)   |   |
|   | Reenter Administrator Password : (Required)  |   |
|   |  |   |
|   | Finish Cancel  |   |
|   |  |   |

#### Note

| computer name and Administrator Password are required parameters.              |
|--|
| Enter Administrator Password that satisfies the following conditions:          |
| - Contains six or more characters  |
| - Contains characters from at least three of the following categories: numbers |

uppercase letters (A - Z), lowercase letters (a - z), and symbols.

9-(2) Click  $\bigcirc$  on the right side of the screen.

| Create a parameter file for Windows  |                              |
|--------------------------------------|------------------------------|
| 1 2 3<br>OS selection Settings Confi | rmation                      |
| Enter installation settings.         |                              |
| Default                              |                              |
| Custom                               |                              |
|                                      | Setup                        |
|                                      | Enter installation settings. |

- 9-(3) Check the settings, and then click **Save**.
  - Save the file according to the on-screen instructions.  $\rightarrow$  Go to step 12.

| Create a parameter file for Windows           |                            |      |
|---|----------------------------|------|
| 1<br>OS selection                             | attings Confirmation       |      |
|   |                            |      |
| Confirm installat                             | -                          |      |
| (Check if valid installatio                   | on settings are specified) |      |
| Target RAID Controller                        | :                          | ^    |
| Array #1 : Initialized(Quick)                 |                            | _    |
| RAID Level                                    | : RAID1                    |      |
| Physical Drive                                | : Slot #00                 |      |
|   | Slot #01                   |      |
| Logical Drive#1                               | : 262143GB                 |      |
| Logical Drive#2                               | :                          |      |
|   | : 0GB                      |      |
| Unused Space                                  | : 066                      |      |
| Unused Space<br>Array #2 : Initialized(Ouick) | : 068                      | ~    |
| · · · · · · · · · · · · · · · · · · ·         | : 068                      | Save |
| · · · · · · · · · · · · · · · · · · ·         | : 066                      | Save |

10. Click Custom.

|            | Create a parameter file for Windows  | × |
|------------|--|---|
|            | 1         2         3           OS selection         Settings         Confirmation |   |
|            | 2 Enter installation settings.   |   |
| $\bigcirc$ | Default  |   |
|            | Custom   |   |
|            |  |   |
|            | Setu   | q |

10-(1) Use this menu to configure the RAID system as needed.

| Wizard<br>An operating system will be installed to the logical drive on the following RAID controller:<br>Uninstall all RAID controllers not to be used for the OS installation if the incorrect RAID<br>controller is selected. |
|--|
| Device Information<br>RAID Controller :<br>Number of Physical Drives : 16<br>Summary of RAID Array<br>Array #1<br>RAID (2disk)<br>Logical Drive1 (262144G8)  |
| RAID Configuration   |
| 1 / 11 Page  |
| Next Cancel  |

#### Note

When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. See Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when creating RAID10.

#### Creating new logical drives

Clear the **Skip a RAID Configuration** check box, and then click **Next**. Set up the logical drives in accordance with the wizard.

Important If you proceed with the wizard, the existing RAID array and the data of hard disk drives will be deleted.

#### Skipping the creation of logical drives

Select Skip Configuring RAID Array, and then click Next.

10-(2) Specify the settings of Basic Settings as needed, and then click Next.

|          | Wizard   |             |
|----------|--|-------------|
| th<br>Cł | hoose Use Windows standard installer to install Windows by using<br>be Windows installation disc.<br>hoose Install Windows using EXPRESSBUILDER to install both the<br>oplications easily. |             |
|          | Basic Settings<br>Operating system : Windows Server 2012 R2  |             |
|          | <ul> <li>Use Windows standard installer</li> </ul>   |             |
|          | Install Windows using EXPRESSBUILDER   |             |
|          | Edition : Standard(Server with a GUI)  |             |
|          | Language : English 💟<br>Time Zone : (UTC-08:00) Pacific Time (US & Canad   | a) 🔽        |
|          |  | 4 / 11 Page |
|          | Back Next  | Cancel      |
|          |  | 212110      |

#### 10-(3) Specify the settings of **Partition Settings** as needed, and then click **Next**.

|   | Create a parameter file for Windows  | × | Create a parameter file for Windows  | × |
|---|--|---|--|---|
| - | Witzard Specify the system partition for Windows, Windows will be installed into the first hard disk drive or logical drive.                       |   | Wizard<br>Specify the settings of the system partition for Windows.<br>Windows will be installed into the first hard disk drive or logical drive. The maximum partition<br>size for the system partition as 216. |   |
|   | Partition Settings<br>Create a new partition<br>O Use all space<br>* Type a partition size<br>(Verimum.4608 / Recommended:4608 / Maximum.25214308) | ( | Partition Settings<br>Create a new partition<br>O Use all space<br>(trisienum:400B / Recommended:400B / Macmum:201430B)<br>(trisienum:400B / Recommended:400B / Macmum:201430B)                                  |   |
|   | 5 / 11 Page Back Next Cancel   | D | 5 / 11 Page Book Next Cancel   |   |

Windows Server 2012 R2/ Windows Server 2012

Windows Server 2008 R2

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. (See *Chapter 1 (Before Starting Setup)*.)
  - The maximum partition size is 2,097,152 MB for Windows Server 2008 R2.
- If you select "Create a new partition" under "Partition Settings", all data on the hard disk drive will be deleted.

#### 10-(4) Enter user information, and then click Next.

| Create a pa  | arameter file for Windows                                |
|--|--|
| 14   |  |
| Wizard   |  |
| Personalize the computer.<br>Type Computer Name within 15 charac<br>Administrator Password must be at lea<br>from three of the four categories (number | ast six characters in length and must contain characters |
| User Information   |  |
| Computer Name  | : 🗹 Automatic Numbering                                  |
|  | BD7944787408 (Required)                                  |
| User Name  | : Administrator  |
| Administrator Password   | : (Required)   |
| Reenter Administrator Password   | : (Required)   |
|  |  |
|  |  |
|  | 6 / 11 Page  |
| Back Next  | Cancel   |
|  | JUJJC  |

| Note | <ul> <li>Computer Name and Administrator Password are required parameters.</li> <li>Enter Administrator Password that satisfies the following conditions: <ul> <li>Contains six or more characters</li> <li>Contains characters from at least three of the following categories: numbers, uppercase letters (A - Z), lowercase letters (a - z), and symbols.</li> </ul> </li> </ul> |
|------|---|
|      |   |
| Tips | <ul> <li>The default setting of Computer Name is assigned by automatic numbering.<br/>If you want to assign another Computer Name, clear Automatic Numbering,<br/>and type your Computer Name.</li> <li>If a parameter file is used for actual or if you rature to a provision screep, access in</li> </ul>   |
|      | <ul> <li>If a parameter file is used for setup or if you return to a previous screen, •••••• is<br/>displayed in the Administrator password and Reenter Administrator password<br/>text boxes.</li> </ul>   |

| 10-(5) | Specify the settings of Network Protocols as needed, and then click Next.                |
|--------|--|
| 10-(3) | Specify the settings of <b>Network Protocols</b> as needed, and then click <b>Next</b> . |

|   | Create a parameter file for Windows  | •  |  |
|---|--|----|--|
|   |  |    |  |
|   | Wizard   |    |  |
|   | Choose a network protocol.   |    |  |
|   | Choose Custom Settings, click Advanced, if you want to type an IP address. |    |  |
| - |  |    |  |
|   | Network Protocols  |    |  |
|   | Standard Settings  |    |  |
|   | Custom Settings  |    |  |
|   | Standard Adapter - Internet Protocol (IPv4)                                |    |  |
| 0 |  |    |  |
| 0 |  |    |  |
|   |  |    |  |
|   |  |    |  |
|   |  |    |  |
|   |  |    |  |
|   | 7 / 11 Page  |    |  |
|   |  |    |  |
|   | Back Next Cancel   |    |  |
| L | SIZIU.   |    |  |
|   |  | ~  |  |
|   |  |    |  |
|   | Tips The order of entry in Custom settings                                 | ma | y differ from the numbering of LAN ports |

10-(6) Specify the domain or workgroup as needed, and then click Next.

|        | Creat                                | te a parameter file for Windows      | ×   |
|--------|--------------------------------------|--------------------------------------|-----|
|        | Le.                                  |                                      |     |
|        | Wizard                               |                                      |     |
| H      | Join this computer to a domain or a  | a workgroup.                         | -   |
|        | Choose Join a workgroup or Join      | a domain, and then enter parameters. |     |
|        |                                      |                                      | _   |
|        | o tria a undersona                   |                                      |     |
|        | <ul> <li>Join a workgroup</li> </ul> |                                      |     |
|        | Workgroup Name                       | : WORKGROUP                          |     |
|        | <ul> <li>Join a domain</li> </ul>    |                                      |     |
| 0      | Domain Name                          | :                                    |     |
| $\leq$ | Account Name                         | :                                    |     |
|        | Password                             | :                                    |     |
|        | Reenter Password                     | :                                    |     |
|        |                                      |                                      | -   |
|        |                                      |                                      |     |
|        |                                      | 0 ( 11 Pres                          |     |
|        |                                      | 8 / 11 Page                          | _   |
|        | Back Next                            | Cancel                               |     |
|        | BBCK                                 | Cancer                               |     |
| _      |                                      | DIN (J) (G)                          | лD) |
|        |                                      | 0000                                 |     |

10-(7) Specify the settings of Windows components as needed, and then click Next.

| Choose Windows components y |                             |             |
|-----------------------------|-----------------------------|-------------|
| 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 Service       | es                          |             |
| U WINS Server               |                             |             |
|                             |                             | 9 / 11 Page |
| Back N                      | ext                         | Cancel      |

10-(8) Specify the settings of applications as needed, and then click Next.

| • | Create a parameter file for Windows   | ×                 | • |   | Create                                     | e a parameter file | for Windows            | ×   |
|---|---|-------------------|---|---|--|--------------------|------------------------|-----|
|   | Witard Witard |                   |   | Wizard<br>Choose application<br>See Description a | s you want to insta<br>bout each applicati | all.               | 10                     |     |
|   | Available Applications           Add >>         Selected Applications           Add >>         Fact ESMMD Serve/pertService<br>Express Report Service(HTSS)           <   |                   |   | Available<br>Description                          | e Applications                             | Add >><br><< Delet | Universal RAID Utility |     |
|   | 10 / 11 Page Back Next Cancel   |                   |   | Back  | Next                                       |                    | 10 / 11 Pag<br>Cancel  | -   |
|   | OCUUI   | $\mathcal{Y}_{i}$ |   |   |  |                    |                        | up) |

Windows Server 2012 R2/ Windows Server 2012

Windows Server 2008 R2

 Tips
 With Windows Server 2008 R2, the applications listed below are supported only in full installations.

 NEC ESMPRO ServerAgentService

 Express Report Service

 Express Report Service

 Express Report Service

Microsoft .NET Framework Version 4.0.0

Click Finish at the following window.

| -   | 11                                    |    |              |
|---|---------------------------------------|----|--------------|
| Wizard                                    |                                       |    |              |
| The settings ar<br>Click <b>Finish</b> to | e now complete.<br>close this window. |    |              |
|   |                                       |    |              |
|   |                                       |    |              |
|   |                                       |    |              |
|   |                                       |    |              |
|   |                                       |    |              |
|   |                                       |    |              |
|   |                                       |    |              |
|   |                                       |    | 11 / 11 Page |
| Bac                                       | k Finis                               | sh | Cancel       |
| L   |                                       |    | 2)(2)(1)     |

10-(9) On the following screen, click  $\bigcirc$  on the right side of the screen.

|            |              | create a parameter me ic | or willdows       |            |
|------------|--------------|--------------------------|-------------------|------------|
|            | 1<br>OS sele | 2<br>Settings            | 3<br>Confirmation |            |
|            | 2 Enter i    | nstallation settin       | gs.               |            |
| $\bigcirc$ | <b>O</b>     | fault                    |                   | $\bigcirc$ |
|            | < 🕅 Cu       | istom                    |                   |            |
|            |              |                          |                   |            |
|            |              |                          | Se                | etup       |

11. Check the settings, and then click Save.

| 1       2       3         OS selection       Settings       3         3       Confirm installation settings.         3       Check if valid installation settings are specified)         Target RAID Controller       : ···         Target RAID Controller       : ···         Versy #1 : intbilized/Quick)       : ···         Rabit e0       : ···         Upscal Drive       : ···         Unued Space       : ···         Unued Space       : ···         Unued Space       : ···         Unued Space       : ···         Array #2 : initialized/Quick)       Save | Create a parameter file for Windows             | Create a parameter file      |               |
|--|---|------------------------------|---------------|
| Check if valid installation settings are specified)           Target RAID Controller         :           Array #1: Initialized(Quick)         RAID Level         : RAID1           Physical Drive         : Slot #00         Slot #01           Logical Drive#1         : 202143GB         Logical Drive#1           Unused Space         : 0GB           Array #2: Initialized(Quick)         :   | 1 2 3<br>OS selection Settings Confirmation     | 1 2<br>OS selection Settings | 1<br>os       |
| Check if valid installation settings are specified)           Target RAID Controller         :           Array #1: Initialized(Quick)         RAID Level         : RAID1           Physical Drive         : Slot #00         Slot #01           Logical Drive#1         : 202143GB         Logical Drive#1           Unused Space         : 0GB           Array #2: Initialized(Quick)         :   | finns in the United and this -                  |                              | - 6           |
| Target RAID Controller         :           Array #1 : Initialized/Quick)         RAID 1           RAID Level         : RAID1           Physical Drive         : Slot #00           Logical Drive#1         : 262143GB           Logical Drive#2         :           Unued Space         : 0GB  |   |                              | 2             |
| Array #1: Initialized(Quick)         RAID1           RAID Level         : RAID1           Physical Drive         : Slot #00           Logical Drive#1         : 262143GB           Logical Drive#2         :           Unused Space         : 0GB  | neek in valie installation seeings are speaneer |                              |               |
| RAID Level         : RAID1           Physical Drive         : Slot #00           Logical Drive#1         : 262143GB           Logical Drive#2         :           Unused Space         : 0GB   | AID Controller :                                | AID Controller               | Target RAID   |
| RAID Level         : RAID1           Physical Drive         : Slot #00           Logical Drive#1         : 262143GB           Logical Drive#2         :           Unused Space         : 0GB   | L : Initialized/Quick)                          | 1 : Initialized(Quick)       | Arrav #1 : In |
| Slot #01<br>Logical Drive#1 : 262143G8<br>Logical Drive#2 :<br>Unused Space : 0G8<br>Array #2 : Initialized/Quick)   |   |                              |               |
| Logical Drive#1 : 262143GB<br>Logical Drive#2 :<br>Unused Space : 0GB<br>Array #2 : Initialized(Outck)   | vsical Drive : Slot #00                         | ysical Drive                 | Physical      |
| Logical Drive+2 :<br>Unused Space : 0GB<br>Array #2 : Initialized(Quick)   |   |                              |               |
| Unused Space : 0GB Array #2 : Initialized/Quick)   |   |                              |               |
| Array #2 : Initialized(Quick)  |   |                              |               |
|  | used Space : 0GB                                | used Space                   | Unused        |
|  | · Initialized(Quick)                            | 2 · Initialized(Quick)       | Array #2 · In |
| Se   |   | - Tandanced goldky           | And a company |
| Se   | Save  |                              |               |
| Se   |   |                              | L             |
|  |   |                              |               |
| <u>O</u> G   | SP  |                              |               |

12. Click OK.

| • | Create a parameter file for Windows |                    |               |                   | ×     |  |
|---|-------------------------------------|--------------------|---------------|-------------------|-------|--|
|   |                                     | 0S selection       | 2<br>Settings | 3<br>Confirmation |       |  |
|   | 1 Informatio                        | n                  |               |                   |       |  |
|   |                                     | Saving the file is | complete.     | [ Message ID : D1 | 000 ] |  |
|   | 1                                   |                    |               |                   |       |  |
|   |                                     |                    |               |                   |       |  |
|   |                                     |                    | ОК            |                   |       |  |
|   |                                     |                    |               | (                 | Sett  |  |

13. Click **Yes** to complete parameter file creation.

| • | Create a parameter file for Windows  |  |  |  |  |
|---|--|--|--|--|--|
|   | 1 2 3<br>OS selection Settings Confirmation  |  |  |  |  |
|   | Selection  |  |  |  |  |
|   | Do you want to stop creating a parameter file for Windows<br>OS?<br>[ Message ID : D2000 ] |  |  |  |  |
|   | 0  |  |  |  |  |
|   |  |  |  |  |  |
|   | Yes No   |  |  |  |  |
|   |  |  |  |  |  |

Parameter file creation is now complete.



# NEC Express5800 Series Express5800/R110h-1, T110h-S, T110h

# **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 ServerAgentService (for Windows)

NEC ESMPRO ServerAgentService (for Windows) is an application used to monitor the server.

You can install it automatically when Windows OS is installed with EXPRESSBUILDER.

When installing NEC ESMPRO ServerAgentService (for Windows) individually, see "NEC ESMPRO ServerAgentService 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** Server Configuration Utility

You can specify configuration data to the BMC of the server by using this utility.

For details about this utility, see "Server Configuration Utility 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)
- N8103-176 RAID Controller (1GB, RAID 0/1)
- N8103-177 RAID Controller (1GB, RAID 0/1/5/6)
- N8103-178 RAID Controller (2GB, RAID 0/1/5/6)
- N8103-179 RAID Controller (2GB, RAID 0/1/5/6)
- N8103-188 RAID Controller (0GB, 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 or Windows Server 2012 R2.

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, modem or HTTPS. If you want to use this service, contact your sales representative and install NEC ESMPRO ServerAgentService before using this service.

You can install it automatically when Windows OS is installed with EXPRESSBUILDER.

For details about Express Report Service / Express Report Service (HTTPS), see "Express Report Service / Express Report Service (HTTPS) Installation Guide (Windows)" in EXPRESSBUILDER.

# **1.7** NEC Product Info Collection Utility

NEC Product Info Collection Utility can collect various logs 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 as an Administrator. Select NEC EXPRESSBUILDER on the Start screen or Start menu. If you have an EXPRESSBUILDER DVD, insert EXPRESSBUILDER DVD into the optical disk drive. Autorun Menu will appear automatically.
- 2. Click Applications from the menu and then click Product Info Collection Utility.

The installation will start. Follow the instructions in the dialog boxes until installation is complete.

This utility is usually installed to the C:\ezclct folder.

Tips

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 (Server with GUI) :

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

# **1.8** Ezclct Viewer

Ezclct Viewer can display the log files collected by NEC Product Info Collection Utility. This utility can be installed by using EXPRESSBUILDER as described below.

## 1.8.1 Installation

Follow the steps below to install this utility.

- Log on to Windows as an Administrator. Select NEC EXPRESSBUILDER on the Start screen or Start menu. If you have an EXPRESSBUILDER DVD, insert EXPRESSBUILDER DVD into the optical disk drive. Autorun Menu will appear automatically.
- Click Applications from the menu and then click Ezclct Viewer and install. The installation will start. Follow the instructions in the dialog boxes until installation is complete. This utility is installed to the C:\EzclctViewer folder.

## 1.8.2 Uninstallation

Choose **Programs and Features** from **Control Panel** and then click **Ezclct Viewer**. Follow the instructions in the dialog boxes.

# **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 via network.

# **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 ServerAgentService.

For details about NEC ESMPRO Manager, see NEC ESMPRO Manager Installation Guide stored in EXPRESSBUILDER.

# **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, modem or HTTPS.

To use this feature, NEC ESMPRO ServerAgentService is required because Express Report Service usually works with it.

If NEC ESMPRO ServerAgentService cannot be installed to the server, you can install Express Report Service (MG) into NEC ESMPRO Manager instead of it.

For details about Express Report Service (MG), see "Express Report Service (MG) Installation Guide (Windows)" in EXPRESSBUILDER.

# Glossary

| Term                             | Description   |  |
|----------------------------------|---|--|
| BIOS Setup Utility (SETUP)       | Software for setting BIOS. You can run this software by pressing <f2> key during POST.</f2>   |  |
| BMC                              | Baseboard Management Controller (BMC) is a built-in controller that supports the IPMI version 2.0 protocol. BMC can manage the server hardware.   |  |
| BMC RESET Switch                 | A switch for resetting the BMC of the server. This resets the BMC without clearing the BMC settings.<br>Use the switch if the problem on the BMC occurs.  |  |
| DUMP Switch                      | A switch that is used for collecting the memory dump if an error occurs. You can specify the destination of the dump by using the Windows function.   |  |
| EXPRESSBUILDER                   | Standard software for setting up the server easily. This also includes several useful applications and instruction manuals.   |  |
| EXPRESSSCOPE ENGINE 3            | A name of BMC for NEC Express5800 series.   |  |
| EXPRESSSCOPE Profile Key         | A removable flash memory that stored the settings of BIOS and BMC. If the motherboard of the server is replaced, you can use former settings when moving this flash memory from the former motherboard.   |  |
| Express Report Service           | Software that can report the server failure to the contact center by E-mail or modem. This software is installed with NEC ESMPRO ServerAgentService to the server.  |  |
| Express Report Service (HTTPS)   | Software that can report the server failure to the contact center by HTTPS. This software is installed with NEC ESMPRO ServerAgentService to the server.  |  |
| Express Report Service (MG)      | Software that can report the server failure to the contact center by E-mail, modem or HTTPS without NEC ESMPRO ServerAgentService. This software is installed with NEC ESMPRO Manager to "PC for Management".   |  |
| ExpressUpdate                    | A feature for updating BIOS, firmware, driver, or software of the server. This feature is available when NEC ESMPRO Manager cooperates with EXPRESSSCOPE ENGINE 3 and ExpressUpdate Agent.  |  |
| ExpressUpdate Agent              | Software for performing ExpressUpdate. This is installed to the server.   |  |
| Flash FDD                        | An optional USB device that can use as a floppy disk drive.   |  |
| Internal Flash Memory            | A built-in flash memory that stored EXPRESSBUILDER as standard. You can start EXPRESSBUILDER from it without DVD when pressing <f3> key during POST.</f3>   |  |
| NEC ESMPRO                       | Standard software for the server management. This consists of several applications for managing or monitoring.  |  |
| NEC ESMPRO Agent Extension       | Software for performing the scheduled operations. This works with NEC ESMPRO Manager.   |  |
| NEC ESMPRO Manager               | Software for managing multiple servers on network.  |  |
| NEC ESMPRO<br>ServerAgentService | Software for monitoring the server. This works with NEC ESMPRO Manager. You can choose Service Mode or Non-Service Mode when installing this software. Service Mode resides as the OS service and Non-Service Mode does not use the OS service to reduce memory, CPU power, and other OS resources. |  |
| OEM driver                       | A Windows driver for the mass storage device.   |  |
| OS standard installer            | An installer that stored in Windows installation disc. Use this installer if you want to install the OS manually.   |  |
| Offline tools                    | Software that can read or change SEL, SDR, FRU, and other IPMI data. You can start Offline tools when pressing <f4> key during POST.</f4>   |  |
| PC for Management                | A computer for managing the server on network. A general Windows/Linux computer can be used as "PC for Management".   |  |
| Product Info Collection Utility  | Software for collecting several hardware/software statuses or event logs. You can easily collect the data for the server maintenance by using this software.  |  |
| RAID Configuration Utility       | Software for configuring RAID arrays. You can run this software during POST.  |  |
| Server Configuration Utility     | Software for setting BIOS or BMC. You can use as Windows application or run this software when pressing <f4> key during POST. This software is the same as BMC Configuration of former models.</f4>   |  |
| Starter Pack                     | Software package for the server. This software includes the customized drivers for Windows. This must be installed before using Windows on the server.  |  |
| TPM Kit                          | An optional product of Trusted Platform Module for the server.  |  |
| Universal RAID Utility           | Software for setting RAID arrays on Windows/Linux. This software is operated on "PC for Management" with NEC ESMPRO Manager.  |  |
| Windows OS parameter file        | A file that saved settings for installing Windows. You can install with the settings in this file when setting Windows with EXPRESSBUILDER.   |  |

# **Revision Record**

| Document Number Date Issued |              | Description  |
|-----------------------------|--------------|--|
| 10.111.01-102.01            | January 2016 | Newly created  |
| 10.111.01-102.02            | April 2016   | Changed the pathname of driver files                                       |
| 10.111.01-102.03            | October 2016 | Windows Server 2008 R2 is now supported for the<br>onboard RAID controller |
|                             |              | Corrected the errors   |

[MEMO]

#### NEC Express Server

Express5800/R110h-1, T110h-S, T110h Installation Guide (Windows)

October 2016

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