

Installation Guide (Windows)

NEC Express Server Express5800 Series

Express5800/R120g-2E, T120g EXP330A, EXP331A, EXP332A

Chapter 1 Installing Windows

Chapter 2 Installing Bundled Software

10.115.01-102.01 April 2016 © NEC Corporation 2016

Manuals

Manuals for this product are provided as booklets (

\square	Safety Precautions and Regulatory Notices	Describes points of caution to ensure the safe use of this server. Read these cautions before using this server.
\square	Getting Started	Describes how to use this server, from unpacking to operations. 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 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	Useful features and the detail of system BIOS settings, RAID Configuration Utility, and EXPRESSBUILDER
Chapter 3: Appendix	Error messages and Windows Event Logs
Other manuals	
The detail of NEC ESMPRO, Univ	versal RAID Utility, and other features

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Conventions Used in This Document

Notations used in the text

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

Important	Indicates critical items that must be followed when handling hardware or operating software. If the procedures described are not followed, hardware failure, data loss, and other serious malfunctions could occur.
Note	Indicates items that must be confirmed when handling 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 manual.

- DVD-ROM drive
- DVD Super MULTI drive

Hard disk drive

Unless otherwise stated, hard disk drive described in this manual refer to the following.

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

Removable media

Unless otherwise stated, removable media described in this manual refer 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	Windows Server 2012 R2 Standard	
Willdows Server 2012 RZ	Windows Server 2012 R2 Datacenter	
Windows Server 2012	Windows Server 2012 Standard	
Windows Server 2012	Windows Server 2012 Datacenter	
Windows Server 2008 R2	Windows Server 2008 R2 Standard	
WINDOWS SEIVEI 2000 RZ	Windows Server 2008 R2 Enterprise	

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NEC Express5800 Series Express5800/R120g-2E, T120g

Installing Windows

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

- Before Starting Setup Describes Service Packs and mass storage controllers which is supported with EXPRESSBUILDER.
- 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.
- Setting Up Windows Server 2008 R2 Describes how to set up Windows Server 2008 R2.
- 6. Setup for Solving Problems Describes how to set up the maintenance tools and the memory dump feature for Windows.
- 7. Windows OS Parameter File

Describes how to create the parameter file for the Windows installation.

1. Before Starting Setup

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

1.1 Starting EXPRESSBUILDER

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

See Chapter 2 (6. Details of EXPRESSBUILDER) in Maintenance Guide for more information.

<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 optional EXPRESSBUILDER DVD or a 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		Boot mode		Setup	
		UEFI	Legacy	EB	OS
Windows Server 2012 R2	Standard	~	-	\checkmark	✓
Windows Server 2012 R2	Datacenter	\checkmark	-	\checkmark	✓
Windows Server 2012	Standard	\checkmark	-	✓	✓
Windows Server 2012	Datacenter	\checkmark	-	✓	✓
Windows Conten 2000 D2	Standard	_	~	✓	~
Windows Server 2008 R2	Enterprise	_	~	\checkmark	\checkmark

✓ : 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	✓	N/A
Windows Server 2012	✓	N/A
Windows Server 2008 R2 with Service Pack 1	✓ (*)	N/A
Windows Server 2008 R2	✓	✓

✓ : Supported

* Service Pack included is also installed when the Windows is installed. The installed Windows system is always installed Service Pack.

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 (1.7 Using a Mass Storage Controller Not Supported by EXPRESSBUILDER*).

	Windows Server 2012 R2	Windows Server 2012	Windows Server 2008 R2		
RAID controllers					
Onboard RAID Controller (LSI Embedded MegaRAID)	✓	\checkmark	\checkmark		
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)	✓	~	✓		
Other options					
N8103-179 RAID Controller (2GB, RAID 0/1/5/6)	✓	~	✓		
N8103-142 SAS Controller	✓	1	\checkmark		
N8103-184 SAS Controller	✓	\checkmark	-		
N8190-157A Fibre Channel Controller (1ch)	✓	~	✓		
N8190-158A Fibre Channel Controller (2ch)	✓	~	✓		
N8190-159 Fibre Channel Controller (1ch)	✓	\checkmark	\checkmark		
N8190-160 Fibre Channel Controller (2ch)	✓	√	✓		

✓: Supported

1.5 LAN Boards Supported by EXPRESSBUILDER

	Windows Server 2012 R2	Windows Server 2012	Windows Server 2008 R2
LAN board			
None	_	_	_
Other options			
N8104-150 1000BASE-T Adapter (1ch)	\checkmark	\checkmark	\checkmark
N8104-151 1000BASE-T Adapter (2ch)	√	~	\checkmark
N8104-152 1000BASE-T Adapter (4ch)	√	~	\checkmark
N8104-153 10GBASE-T Adapter (2ch)	√	~	-
N8104-145 1000BASE-T Adapter (2ch)	_	_	~
N8104-149 10GBASE Adapter (SFP+/2ch)	√	1	\checkmark

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

✓: Supported

1.6 InfiniBand Adapters Supported by EXPRESSBUILDER

EXPRESSBUILDER supports the following InfiniBand adapters.

<R120g-2E>

	Windows Server 2012 R2	Windows Server 2012	Windows Server 2008 R2
N8104-146 InfiniBand Host Channel Adapter(1ch)	✓	✓	-
N8104-147 InfiniBand Host Channel Adapter(2ch)	✓	\checkmark	_

✓: Supported

1.7 Using a Mass Storage Controller Not Supported by EXPRESSBUILDER

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

You do not need to perform the following instructions usually.

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

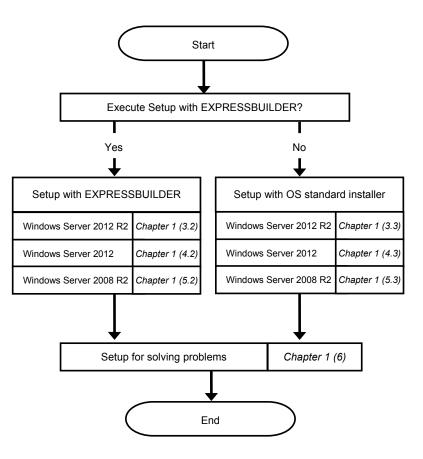
Note

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

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

2. Setting Up the Operating System

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



3. Setting Up Windows Server 2012 R2

Set up Windows Server 2012 R2.

3.1 Before Starting Setup

Read through the following precautions before starting setup.

- EB
- : Precautions for setting up with EXPRESSBUILDER
- **OS** : Precautions for setting up with Windows standard installer

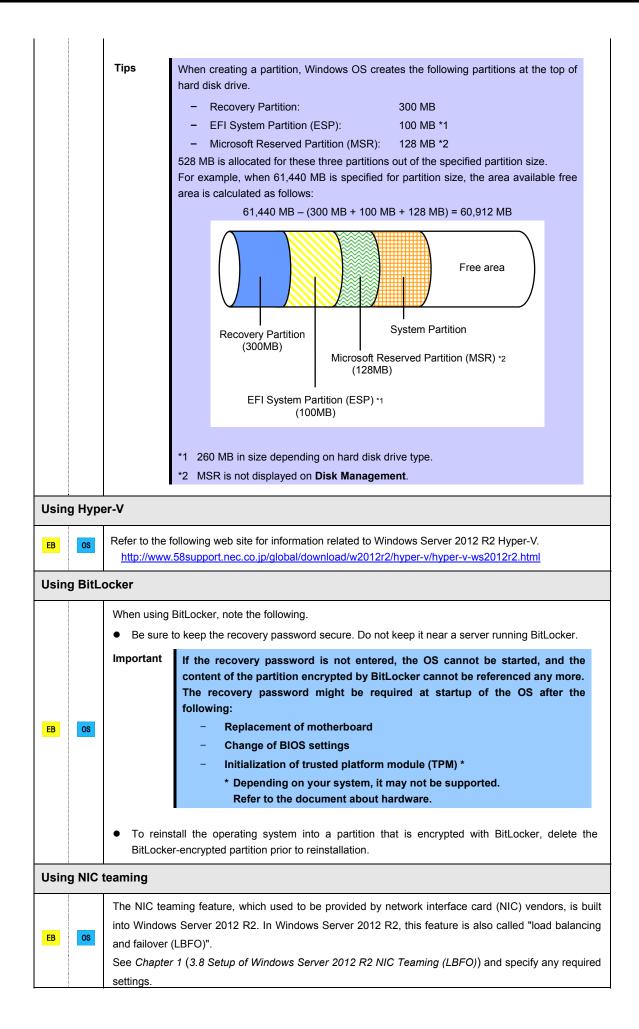
BIOS	S settir	gs
EB	08	Change Boot Mode to UEFI Mode . See <i>Chapter 2 (1. System BIOS)</i> in <i>Maintenance Guide</i> for details.
		$\textbf{Boot} \rightarrow \textbf{Boot} \ \textbf{Mode} \rightarrow \textbf{UEFI}$
EB	OS	Select Enabled for X2APIC feature of processor. See <i>Chapter 2 (1. System BIOS)</i> in <i>Maintenance Guide</i> for details.
		Advanced \rightarrow Processor Configuration \rightarrow X2APIC \rightarrow Enabled
		At re-installation, open Boot Option Priorities in BIOS Setup Utility to make sure that the higher boot priority than Windows Boot Manager is specified for optical disk drive.
		Example of correct setting
		 [Boot]–[Boot Option Priorities] – Boot Option #1 [UEFI: Optical Disk Drive] – Boot Option #2 [Windows Boot Manager] → The OS installation disc can be booted.
		Example of incorrect setting
EB	OS	 [Boot]–[Boot Option Priorities] – Boot Option #1 [Windows Boot Manager] – Boot Option #2 [UEFI: Optical Disk Drive] → The OS installation disc cannot be booted.
		 Note Be sure to insert OS installation disc into optical disk drive before running BIOS Setup Utility. If Windows Boot Manager is not displayed in Boot Option Priorities, you need not to confirm the boot priority.

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

EB 08 Setup when mass memory is installed If large capacity memory modules are installed in your system, the large size of paging file and dump file are required at installation. If you fail to allocate the dump file, allocate the required file space to multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Specify another disk as the destination to save the dump file by reading Chapter 1 (6. Setup for Solving Problems). If the hard disk drive does not have enough space to write the dump file, set the partition size to a size sufficient to install the OS and paging file, and then add another hard disk drive for the dump file. Note If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive. If sufficient space cannot be allocated for the paging file, perform either of the following after installing Windows. Specify a hard disk drive other than the system drive as the location to save the paging file for collecting memory dump Create a paging file of the installed memory size + 400 MB or more in a drive other than the system drive. The paging file that exists in the first drive (in the order of drive letter C, D, E, ...) is used as the temporary memory dump location. The size of the paging file must be "installed memory size + 400 MB" or more. Paging files in dynamic volumes are not used for dumping memory. The setting is applied after restarting the system. Example of correct setting C: No paging file exists D: Paging file size is "installed memory size + 400 MB" or more \rightarrow The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.

	of incorrect setting 1
	ging file size is smaller than the installed memory size ging file size is "installed memory size + 400 MB" or more
colle	paging file in drive C is used for collecting memory dump, but action will fail because the size of the paging file is smaller than the alled memory size.
Example	of incorrect setting 2
D: Pag	ging file size is "installed memory size × 0.5" ging file size is "installed memory size × 0.5" ging file size is 400 MB
but o	otal paging file size in all drives is "installed memory size + 400 MB", collection will fail because only the paging file in drive C is used for acting memory dump.
Example	of incorrect setting 3
D: Paç	paging file exists ging file size is "installed memory size + 400 MB" or more lynamic volume)
dum	p. Thus, collecting memory dump will fail.
dum cify a driv	p. Thus, collecting memory dump will fail.
dum cify a driv ate the reg np File.	
dum cify a driv te the reg p File.	p. Thus, collecting memory dump will fail.
dum cify a driv ate the reg p File. Example of Key: Name: Type: Data:	p. Thus, collecting memory dump will fail. re other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name f specifying the "dedicateddumpfile.sys" on drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ
dum cify a driv ate the reg p File. Example of Key: Name: Type: Data:	p. Thus, collecting memory dump will fail. The other than the system drive for "Dedicated Dump File". pistry shown below by using the Registry Editor and specify the name f specifying the "dedicateddumpfile.sys" on drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
dum cify a driv ate the reg p File. Example of Key: Name: Type: Data: Data:	p. Thus, collecting memory dump will fail. re other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name f specifying the "dedicateddumpfile.sys" on drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys bowing when specifying Dedicated Dump File:
dum cify a driv ate the reg pp File. Example of Key: Name: Type: Data: Data:	p. Thus, collecting memory dump will fail. The other than the system drive for "Dedicated Dump File". pre other than the system drive for "Dedicated Dump File". pre other than the system drive for "Dedicated Dump File". pre other than the system drive for "Dedicated Dump File. pre other than the system drive for "Dedicated Dump File. pre other than the system drive for "Dedicated Dump File. pre other than the system drive for "Dedicated Dump File. pre other than the system drive for "Dedicated Dump File. pre other than the system drive for "Dedicated Dump File. pre other than the system drive for "Dedicated Dump File. pre other than the system drive for "Dedicated Dump File. pre other the registry.
dum ecify a driv ate the reg np File. Example of Key: Name: Type: Data: Data: ote the folk • Pay st • The se • Specif	p. Thus, collecting memory dump will fail. re other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name is specifying the "dedicateddumpfile.sys" on drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys bowing when specifying Dedicated Dump File: rict attention to edit the registry. etting is applied after restarting the system.
dum ecify a driv rate the reg mp File. Example of Key: Name: Type: Data: Data: lote the follo Pay st • Pay st • Specif • Dedica	p. Thus, collecting memory dump will fail. The other than the system drive for "Dedicated Dump File". pistry shown below by using the Registry Editor and specify the name of specifying the "dedicateddumpfile.sys" on drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys bowing when specifying Dedicated Dump File: rict attention to edit the registry. etting is applied after restarting the system. y a drive that has free space of "installed memory size + 400 MB" or

System pa	rtition size
EBOS	The system partition size can be calculated by using the following formula.
	Size required to install the OS + paging file size + dump file size + application size
	Server with a GUI Size required to install the OS = 9,200 MB Paging file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 400 MB Application size = as required by the application Server Core installation = 6,400 MB Paging file size (recommended) = installed memory size × 1.5 Dump file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 400 MB Application size = as required by the application
	For example, if the installed memory size is 1 GB (1,024 MB), application size is 100 MB, and Server with a GUI is selected, the partition size is calculated as follows: 9,200 MB + (1,024 MB × 1.5) + 1,024 MB + 400 MB + 100 MB = 12,260 MB The above mentioned partition size is the minimum partition size required for system installation. Ensure that the partition size is sufficient for system operations. The following partition sizes are recommended. Server with a GUI : 32,768 MB (32 GB) or more Server Core installation : 32,768 MB (32 GB) or more *1 GB = 1,024 MB
	 Note The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the Windows partition paging file must be large enough to save dump files. Make sure you set a sufficient paging file size. If the paging file is insufficient, there will be a virtual memory shortage that may result in an inability to collect correct debug information. Regardless of the sizes of internal memory and write debug information, the maximum size of the dump file is "size of internal memory + 400 MB". When installing other applications or other items, add the amount of space needed by the application to the partition.



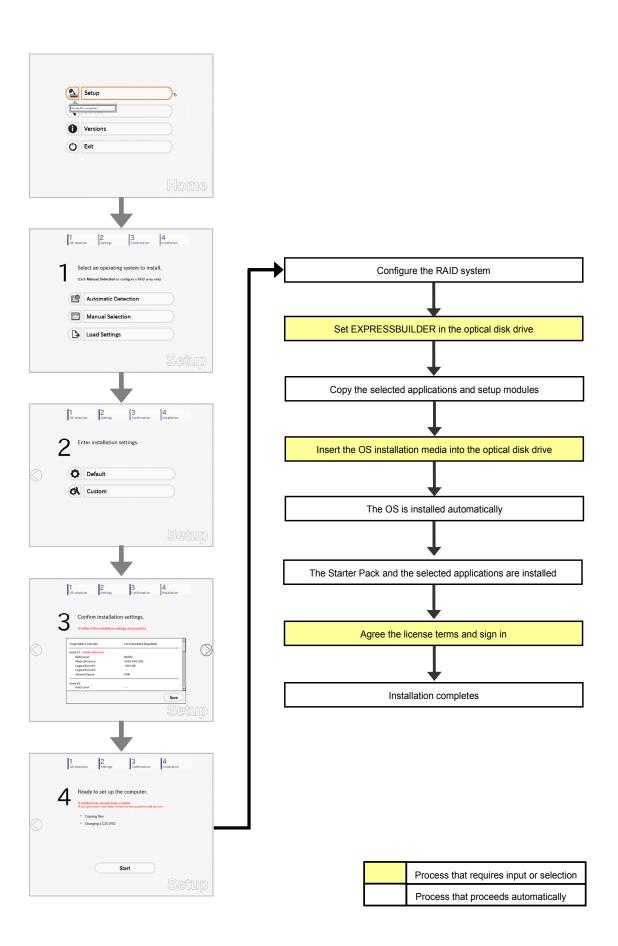
3.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

This feature automatically finds RAID controllers connected to the server and configures RAID arrays. Therefore the hardware installation of the server needs to be finished by following *User's Guide*.

Important	 Setup with EXPRESSBUILDER deletes all data of the hard disk drive depending on the settings. Pay attention to specify the following parameters: RAID settings Partition Settings Backing up user data is recommended. 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.
Note	 The Scalable Networking Pack (SNP) feature is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP feature may affect the system performance. Contact your sales representative for details. 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 <i>Maintenance Guide</i> when creating RAID10.
Tips	 Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory. For details on creating a parameter file, see <i>Chapter 1 (7. Windows OS Parameter File)</i>.

3.2.1 Setup flow



3.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation disc
 - NEC operating system installation disc (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation disc (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. Choose **OS installation** *** default ***.
 - You will automatically advance to step 4, with no need for further input.

	GNU GRUB	version 2.00	
OS installation *** defaul Tool menu	t ***		
Use the + and + keys t Press enter to boot th for a command-line. The highlighted entry wil	e selected OS, `e	to edit the commands before bo	ating or `c'

The following screen appears.



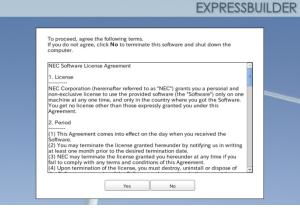
The server starts from EXPRESSBUILDER.



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



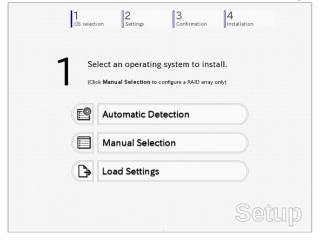
5. When the following screen appears, read the contents and click Yes.



6. Click Setup.

Set up	the computer.	
0	Versions	
٢	Exit	

7. On the **OS selection** menu, select an 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.

Select an operating system to install. (Click Manual Selection to configure a RAID array only) Automatic Detection Select an operating system desc. Select an operating system desc. Load Settings	(Click Manual Selection to configure a RAID array only) Automatic Detection Select an operating system Externationalizability with an installation Stion				
Select an operating system automatically with an installation	Select an operating system intromatically with an installation tion				
dise.	Load Settings	AL	itomatic Dete	ection	<i>₽</i>
Load Settings		Select an oper automatically u disc.	ating system with an installation	on	
		Lo	ad Settings		

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

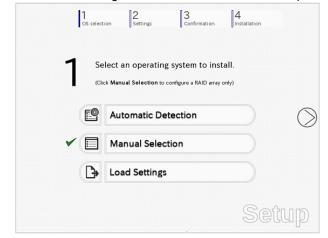
Insert the OS installation disc. EXPRESSBUILDER will detect the OS you want to install.
[Message ID : B2014]
0
OK Cancel



- 9. When not using a parameter file, select an OS by using the following procedure.
 - 9-(1) Click Manual Selection.
 - 9-(2) From the Windows list, select Windows Server 2012 R2, and then click OK.

		ver 2012 R2 \$
?	RAID Configuration Only	

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



- 10. When using the parameter file, load the parameter file by using the following procedure.
 - 10-(1) Click Load Settings.
 - 10-(2) Follow the on-screen instruction to load the parameter file (*.tre).

-	usr_connect	
Places	Name	V Size Modified
🏥 Search	🛅 cdrom 1	05/08/2014
Recently Used		
🔁 root		
🔯 Desktop		
File System		
Documents		
Music		
Pictures		
Videos		=
Downloads		
Add Remove		
		Cancel Open
-	Tips	For the new systems reading in which the part
	nps	For the removable media in which the pa
		"/mnt/usr_connect/usb*" (* indicates a
		(indicates a

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

1 :	Select an operating sys	tem to install.
	Click Manual Selection to configu	ure a RAID array only)
E	Automatic Detect	tion
	Manual Selection	ı
	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 OS selec	tion Settings	3 Confirmation	4 Installation	
	2 -	nter installation	settings.		
\bigcirc	Ø	Default			\bigcirc
	~ 61	Custom			
				Set	സ്രത

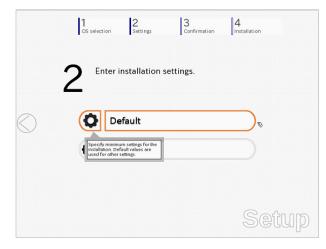
11. Specify the setup parameters by using either of the following methods:

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

 \Box When selecting ${\mbox{Custom}}$: Go to Step 13.

	1 OS selection	2 Settings	3 Confirmation	4 Installation
	2 Enter	installation	settings.	
)	0	efault		
	6 C	ustom		
				Setu

12. Click Default.



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

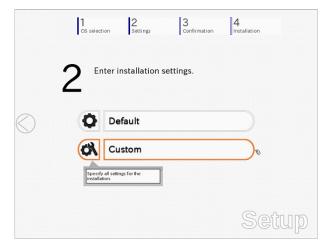
Basic Settings Operating sys	tem : Windows S	erver 2012 R2		
Edition	: Standard(: English	Server with a GUI)	0	
	tor Password Iministrator Password	:		uired) uired)
<u> </u>				
	Finish		Canc	el
			20	GINNE

- 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	Enter installation settings.	
~0	Default	
63	Custom	

13. Click Custom.



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

RAID Controller			Detail
Number of Physica	I Drives	: 2	Detail
Summary of RAID Arra	y		
Array #1 RAIDO (1disk) Logical Drive1 (1	117GB)		
RAID Configuration-			
Skip Configurin	ig 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.

	Basic Settings				
	Operating system	: W	/indows Server 2012	2 R2	
	O Use Windows sta	indard installer			
Г	□	ising EXPRESSBUILD	DER		
	Edition	: Standard(S	Server with a GUI)	0	
	Language	: English	0		
	Time Zone	: (UTC-08:0	0) Pacific Time (US &	& Canada)	0
Μ					
					4 / 11 Page

13-(3) Check the settings specified for Partition Setting	S.
Modify the settings as needed, and then click Nex	t.

Γ	Wizard			
	Specify the settings of the system partitle Windows will be installed into the first ha All data currently on an existing partition	on for Windows. ard disk drive or logical drive. , shown with a red frame, will be deleted.		
	Current Partitions (the area shown with a red fr D 08(FAT32) D 07(NTFS) (0.3GB) (Total:40.3GB) (0.1G	Partition :Free Space		
	Partition Settings			
R	Create a new partition			
	 Use all space Type a partition size (Min 	: 40](GB) *1TB=1024G8 imum: 40GB / Recommended: 40GB / Maximum: 1116GB)		
		5 / 11 Page		
	Back Next	Cancel		
	Important	Partition size		
				than the minimum required for installing to <i>Chapter 1 (3.1 Before Starting Setup</i>).)
		- The maximum partition size	ze i	s 2,097,152 MB.
		The entire contents of the de	esti	nation hard disk drive will be deleted.

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

Type Computer Name within 15 charac	tors		
Administrator Password must be at lea	st six o		must contain characters fro
three of the four categories (numbers/upp	percas	e/lowercase/symbols).	
User Information			
Computer Name	:	Automatic Numberin	g
		BD4394570815	(Required)
User Name	: /	Administrator	
Administrator Password	: [(Required)
Reenter Administrator Password	: [(Required)
			6 / 11 Page
			07111480

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.
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**.

Wizard Choose a network protocol.	anced, if you want to type an IP address.	
Network Protocols Standard Settings C Custom Settings <u>Standard Adapter - Inter</u>	net Protocol ((Pv4) © Advanced	
Back Next		
Tips	The order of entry in Custom setting	s may differ from the numbering of LAN ports.
Note	Even when an optional network board	d is connected, Custom settings only shows

13-(6) Specify the domain or workgroup.

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

settings again.

KGROUP

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

Modify the settings as needed, and then click Next.

Wizard Choose Windows components you want to install.	Wizard Choose Windows components you want to install.	
Server Roles Print and Document Services DHCP Server Tile Services DHS Server Hyper V Windows Features Advanced Simple TCP/P Services Advanced WinS Server WinS Server	Server Roles DHCP Server (IIS) HILD Server HILD Serve	Advanced
9/11 Page Back Next Carcel	Back Next	9 / 11 Pa

After finishing Setup with EXPRESSBUILDER, specify the optional network

Server with a GUI

Server Core Installations

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

	Available Applic	cations		Selected Applications
		6	Add >>	NEC ESMPRO ServerAgentService Express Report Service Express Report Service(HTTPS) Universal RAID Utility Microsoft .NET Framework Version 3.5.1
			Add >>	Microsoft .NET Framework Version 3.5.1
			<< Delete	Microsoft .NET Framework Version 4.5.2 NEC ExpressUpdate Agent
8				Theo expressopolate Agent
		2	1	
De	escription			
				10 / 11 Page

On the following screen, click Finish.

The settings are now complet	e.	
Click Finish to close this win	dow.	
		11 / 11 Page
Back	Finish	Cancel

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

2 Enter in:	stallation setting	gs.	
Defa	ault		
🗸 🕅 Cus	tom		

14. Check the parameter settings.

OS selection Setti	ngs 3 4 Confirmation Installation
• Confirm inst	allation settings.
\prec	Illation settings are specified)
[
Skip configuring RAID array.	5
Operating system	: Windows Server 2012 R2
(Install Windows using EXPRE	SSBUILDER)
Edition Language	: Standard(Server with a GUI) : English
	Save
	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 Confirmation	4 Installation
$\langle \rangle$	A partition if you prov Confi Copy	guring RAID system	reated. ed on the partition will be	9 lost
	• Chan	ging media	Start	
				Setup

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.

			_
Insert the EXPRESSBU		e. [Message ID : J200	2]
ОК	Cancel		_

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

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

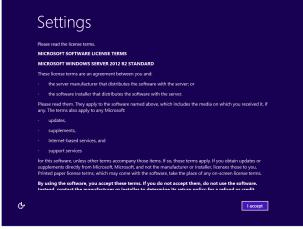
Windows Server 2012 R2 is installed automatically.

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

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

1 /2 4 2 /2
Installing Starter Pack.
Please wait for a while.
Installing applications.
Please wait for a while.

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



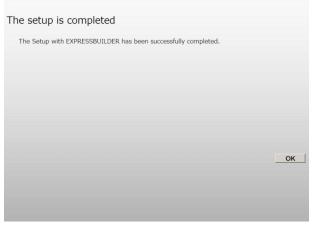
20. Press the CTRL+ALT+DEL keys to sign in.

Press Ctrl+Al	t+Delete to	o sign in.				
12	:3	4				
Frida &	y, N	over	nber i	29		

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



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.

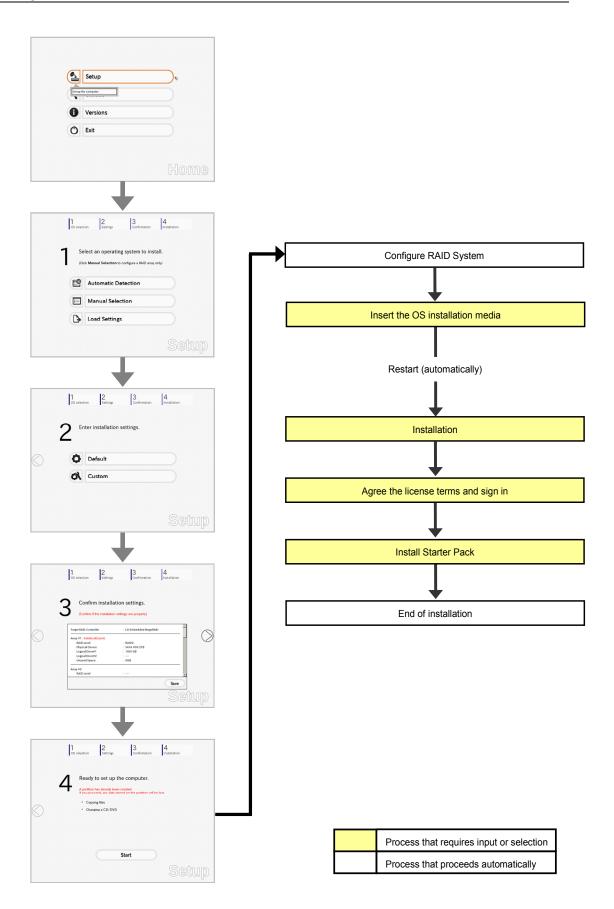
3.3 Setup with Windows Standard Installer

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

This feature automatically finds RAID controllers connected to the server and configures RAID arrays. Therefore the hardware installation of the server needs to be finished by following *User's Guide*.

Important	Setup with Windows standard Installer deletes all data of the hard disk drive depending on the settings. Pay attention to specify the following parameters: – RAID settings Backing up user data is recommended.
Note	The creation of RAID10 by using the onboard RAID controller (LSI Embedded MegaRAID) is not supported. See <i>Chapter 2</i> (5. <i>RAID System Configuration</i>) in <i>Maintenance Guide</i> when creating RAID10.
Tips	 Setup with Windows Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory. For details on creating a parameter file, see <i>Chapter 1 (7. Windows OS Parameter File)</i>.

3.3.1 Setup flow



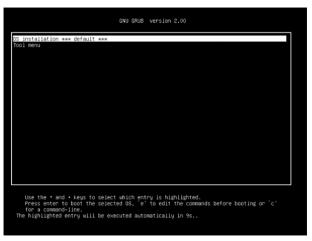
3.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation disc
 - NEC operating system installation disc (hereafter referred to as *Backup DVD-ROM*)
 - Microsoft operating system installation disc (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

- Turn on a display, and then turn on the server. Confirm BIOS settings are correct by using BIOS Setup Utility. For more precautions, see *Chapter 1 (3.1 Precautions for Setting Up)*.
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 3. Choose OS installation *** default ***.



The following screen appears.



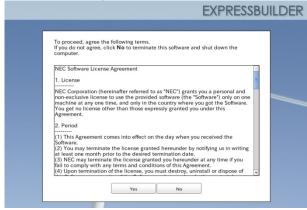
The server starts from EXPRESSBUILDER.



4. Choose 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.



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

1 Selection 2 Gonfirmation 4	
Select an operating system to install. (Click Manual Selection to configure a RAID array only)	
Automatic Detection	
Manual Selection	
Load Settings	
Setu	
• •	ic Detection , and then go to Step 8. Selection, and then go to Step 9.
U When <i>using</i> a parameter file : Select Load Se	ttings, and then go to Step 10.
Note When setting up again,	parameter input via the wizard can be omitted by loading

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

the saved parameter file.

8-(1) Click Automatic Detection.

1 s	elect an operating system to	install.
(C	lick Manual Selection to configure a RAI) array only)
[Automatic Detection	<i>w</i>
Select autom disc.	t an operating system natically with an installation	
B	Load Settings	

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

		EXPRESSBUILDER wi
B2014]	[Message ID : B2	

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

1 OS selection Sel	ttings Confirmation	4 Installation
	Derating system to ins	
Autom	atic Detection	
Manua	l Selection	Ø
You can select the target the installation from the	OS of menu.	
		Setup

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

3 Selection	
	Select an operating system to install.
	Windows Server 2012 R2
	O RAID Configuration Only
?	
	OK Cancel

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

1		lect an operating system to insl		
•	(Clie	k Manual Selection to configure a RAID array	only)	
(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 S selection Settings Confirmation	4 Installation
Select an operating system to inst (Click Manual Selection to configure a RAID array of	
Automatic Detection	
Manual Selection	
Load Settings	Tr,
Load installation settings.	Setup

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

	Choosing a File	×
mnt us	ir_connect	
Places	Name V Size Modified	
🙀 Search	Cdrom1 05/08/2014	
Recently Used		
🛅 root		
🔯 Desktop		
File 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.

 \rightarrow Go to step 11-(1).

	elect an operating system to in	
(C	ick Manual Selection to configure a RAID arra	iy only)
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 12.

Click **Custom** to check and modify the setting in the wizard.

2 Enter ins	tallation settings.	
C Defa	ult	
🗸 🖒 Cust	om	

11. Click Custom.

	1 OS selection	2 Settings	3 Confirmation	4 Installation
	2 Enter	installation	settings.	
3		efault		
		ustom		
	Specify all sett installation.	ings for the		
				Setup

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

Г	Device Information		
	RAID Controller	:	Detail
	Number of Physical Drives	: 2	
	Summary of RAID Array		
	Array #1 RAIDO (1disk) Logical Drive1 (1117GB)		< 10
	-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.

applications easily.	
Basic Settings Operating system	: Windows Server 2012 R2
Use Windows sta	andard installer
O Install Windows u	using EXPRESSBUILDER
Edition	: Standard(Server with a GUI)
Language	: English 🔅
Time Zone	: (UTC-08:00) Pacific Time (US & Canada)
	4 / 11 Page

Click Finish to	re now complete. o close this window	w.	
			11 / 11 Page
	ick F	inish	Cancel

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

Defa
Cust

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

	1 OS selection	2 Settings	3 Confirmation	4 Installation
~	Confirm	n installatio	n settings.	
J	(Check if y	valid installation s	ettings are specified)	
	Skip configuring R	AID array.		[
	Operating system	à.	: Windows Server 2	012 R2
	(Use Windows star	ndard installer)		
				Save
				Sefu

13. The setup process starts.

Click Start to continue setup.

	1 2 3 4 OS selection Settings Confirmation
	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
	Changing a CD/DVD
	 Installing an OS
	Start
	Setu

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

	Insert an OS installat	ion disc for installing	[Message	D - 12000 1
			f message i	0.120001
0				

- 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 "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	
	Languag <u>e</u> to install: <mark>English (United States)</mark>	_
Ii	ime and currency format: English (United States)	~
	eyboard or input method: US	_
Ke		
<u>K</u> e	Enter your language and other preferences and click "Next" to continu	ue.

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

Load driver	3
A media driver your computer needs is missing. This could be a DVD, USB or Hard disk driver. If you have a CD, DVD, or USB flash drive with the driver on it, please insert it now.	C
Note: If the installation media for Windows is in the DVD drive or on a USB drive, you can safely remove it for this step.	
<u>B</u> rowse OK Cancel	

18. Select the destination, and then click OK.

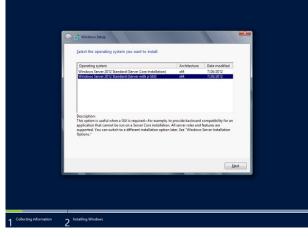
Internal Flash Memory:\015\win\winnt\drivers\01_storage\1_al_05

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

- 19. Select LSI Embedded MegaRAID, and then click Next.
- 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.

Mindows Setup	Windows		
	ndows came in or in a message that shows you	u bought	
Dashes will be added automatically.			
Privacy statement		Next	

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



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	
MICRO	DSOFT SOFTWARE LICENSE TERMS	^
MICRO	DSOFT WINDOWS SERVER 2012 R2 STANDARD	1.1
These	license terms are an agreement between you and:	
· t	he server manufacturer that distributes the software with the server; or	
- t	he software installer that distributes the software with the server.	
	read them. They apply to the software named above, which includes dia on which you received it, if any. The terms also apply to any soft:	
·	ipdates,	,
₩ jgcce	pt the license terms	
		Next

23. Select the installation type.

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

G	🔐 Windows Setup	
	Which type of installation do you want? <u>Upgrade::Install Windows and keep files, settings, and applications</u> The files, settings, and applications are moved to Windows with this spton. This option is only available when a supported version of Windows is already running on the computer.	
	Custom: Install Windows only (advanced) The files, settings, and applications aren't moved to Windows with this option. If you want to make changes to particles and drives, last the computer using the installation disc. We recommend lacking up your files lafler you continue.	
	Help me decide	
1 Collecting information 2	Installing Windows	

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

When load the driver from EXPRESSBUILDER DVD, replace the OS installation media with EXPRESSBUILDER DVD in the optical disk drive.

- Click Browse, and then click OK.
 When using Internal Flash Memory, select the volume of INTER-FLASH. (When using EXPRESSBUILDER DVD, select the optical disk drive.)
 - If using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive: \015\win\winnt\drivers\01_storage\1_al_05
- 26. Select the following driver from the driver list shown, and then click Next.

LSI Embedded MegaRAID

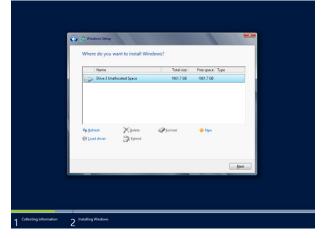
27. If you inserted the EXPRESSBUILDER DVD in Step 24, remove it, and then insert the OS installation media.



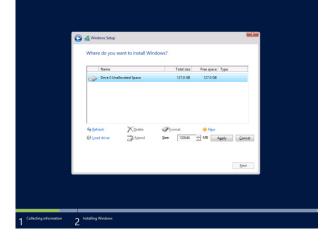
Create a partition to install an OS.
 To create a partition, click **Drive options (advanced)**.
 If a partition has already been created, go to step 32.

e	of Windows Setup Where do you want to install Wind		
	Neme Drive 3 Unallocated Space	Total size Free space Type 1861.7 GB 1861.7 GB	
	€g Batrish @ Load driver	Drive options (gehanced)	
		No	
cting information 2	nstalling Windows		

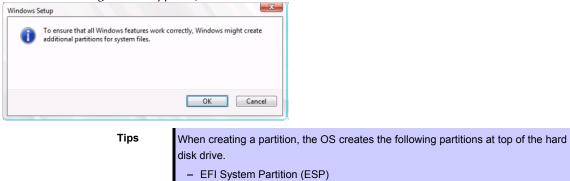
29. Click New.



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



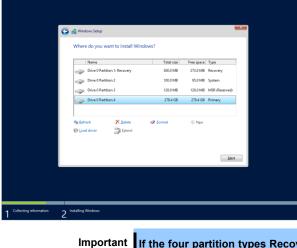
When the following window appears, click OK.



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

- Microsoft Reserved Partition (MSR)

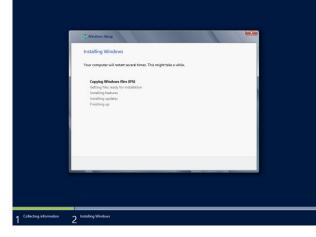
32. Select the created partition, and then click Next.



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.

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

When the following message appears, Windows installation starts automatically.



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



Type a password and click Finish.

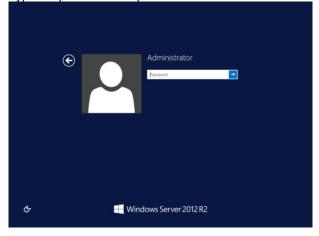
Tips

type a password for t	he built-in administrator account	that you can use to sign in to th	is computer.
User name			
Password			
Reenter password			

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



Type the password and press <Enter>.



Windows Server 2012 R2 starts.

Server M	anager • Dashboard	• 🗇 🧗 Manage Tools View Help
III Dashboard	WELCOME TO SERVER MANAGER	
Local Server	Configure this loc Concernation Concernatio Concernation Concernation Concernation Concernation	ures to manage
	A Create a server gr LIANN MORE ROLES AND SERVER GROUPS More 0 [Server groups]] Server total 1	Hde 1
	Local Server 1	rs 1
	Manageability Manageability Events Events Services Services Performance Performance BPA results BPA results	500
4 ⊾ 🛛 🊞		12:50 AM 11/29/2013

Server Core Installations

Click OK.

Administrator
The user's password must be changed before signing in.
OK Cancel
Windows Server 2012 R2
windows server 2012 N2

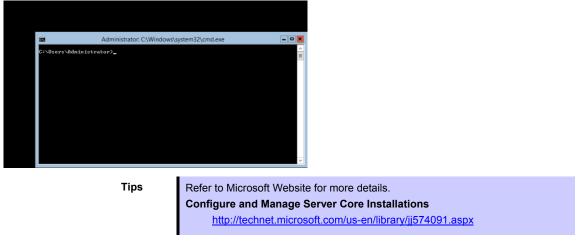
Type the new password.

¢	Administrator
<u> </u>	New password
	Confirm password
÷	Windows Server 2012 R2

Click OK.

	Administrator Your password has been changed.	
. Winc	łows Server 2012 R2	

Windows Server 2012 R2 starts.



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. Be sure to apply Starter Pack before running the Windows.

Important	Also install Starter Pack in the following cases.
	 The motherboard of the server has been replaced
	(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.)
	 If the system was restored using a restore process
	 If a system has been restored using the backup tool
	• 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) feature is disabled upon Starter Pack installation is complete.
	The setting of SNP feature may affect the system performance.
	Contact your sales representative for details.
Tips	If the OS is installed by EXPRESSBUILDER without using Windows Standard Installer, Starter Pack is already installed. If the hardware 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.



The following window appears.



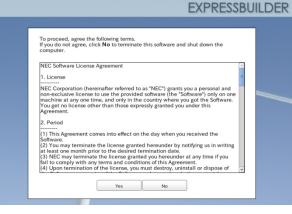
The server starts from EXPRESSBUILDER.



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 Utilities.

	Setup	
٩	Utilities	₽
Move t	o Utilities Menu.	
٢	Exit	

7. Click Starter Pack Installation.



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

Selection					-
	Starter Pack will be	installed on ye		system. Proceed ssage ID : P200	
0					
	Yes		No		

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

1 Informat	ion
	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
	Server Core mode. [System Drive]:\StartPKG\app_pkg.bat
	[Message ID : P1003]
	Close

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.

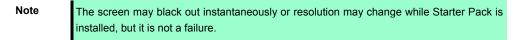
Starter Pack is in preparation for application. Wait for a while (about 1 to 3 minutes.)

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.

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

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 (6. *Details of EXPRESSBUILDER*) in Maintenance Guide.

- 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.

	NEC EXPRESSBUILDER	
EXPRESSBL	JILDER	NEC
	Instruction Manuals	\supset
Ó	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files For Setup	\supset
۲	Maintenance	\supset
(Fri	Exit	Version 7.10-000.01(001)

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

EXPRE	ESSBUILDER			NEC
	Integrated Installation			
0	Install the following software. - Install Starter Pack prior to installing th - Uninstall the application prior to reinst		ion.	
	Applications Rec ESMPRO ServerAgentService Express Report Service	Rev1.22 Rev3.5E	Not installed	
	Express Report Service (HTTPS)	Rev3.6	Not installed Not installed	
	Universal RAID Utility Product Info Collection Utility	Rev4.10 Rev2.9.3	Not installed Not installed	
	Ezcict Viewer NEC ExpressUpdate Agent	Rev2.2.0 Rev3.18	Not installed Not installed	
9				
Bel			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.

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.

Server Core Installation

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

```
Cd /d D:\015\win\winnt\bin
C:\Users\administrator>cd /d D:\015\win\winnt\bin
```

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

Pkgsetup.vbs

D:\015\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.			
NEC EXPRESSBUILDER				
EXPRESSBUILDER		NEC		
	Instruction Manuals			
Ĵ	Versions			
7	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.

3.6 Setting Up Device Drivers

Install and set up device drivers provided as standard.

For details of an optional device, refer to the manual that comes 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. 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 Windows from a local console using an administrator 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.

Note

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

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\015\win\winnt\drivers
\02_network\1_as_02\install_ws2012r2.bat
```

If using EXPRESSBUILDER, run the following file.

\015\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\015\win\winnt\drivers \02_network\1_ag_01\install_ws2012r2.bat

If using EXPRESSBUILDER, run the following file.

\015\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 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 adapters with the same name, a different identification number will be assigned to xx.

Tips

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

The link speed setting is now complete.

(2) 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\015\win\winnt\drivers
\02_network\1_ah_02\pgdyavd_disable.vbs
```

If using EXPRESSBUILDER, run the following file.

\015\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.

3.6.3 Using InfiniBand board (N8104-146/147)

If it is setup with EXPRESSBUILDER, the N8104-146/147 driver has been installed already. If it is setup with Windows Standard Installer, the N8104-146/147 driver is installed automatically when Starter Pack is applied.

Furthermore, if the InfiniBand Adapter is newly connected to the above system, the N8104-146/147 driver is installed automatically.

Important For the system that InfiniBand Adapter is connected, if Starter Pack is reapplied, the following system device may be disabled.

In that case, please enable the system device in Device Manager.

- Mellanox ConnectX-3 VPI (MT04099) Network Adapter

3.6.4 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\015\win\winnt\drivers
 \03_graphics\1_aj_02\install.bat
 - When using EXPRESSBUILDER DVD: \015\win\winnt\drivers\03_graphics\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.

3.6.5 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 Using a RAID Controller (N8103-179)

The driver for RAID controller N8103-179 is automatically installed by Windows Plug-and-Play.

3.6.7 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, install Starter Pack again.

3.7 License Authentication

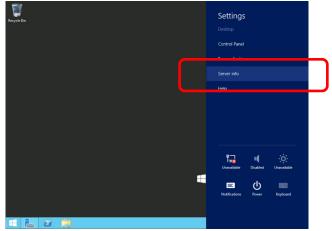
To use Windows Server 2012 R2, perform the license authentication procedure.

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

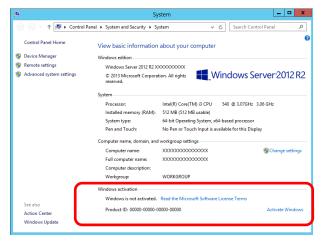
Connect to the Internet or use the telephone to perform the authentication procedure.

(1) Server with a GUI

- 1. Click Settings on 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 5.



- 4. When the server is connected to Internet, perform the following process.
 - 4-(1) Click Activate Windows.

Computer name:	****	Thange settings
Full computer name:	XXXXXXXXXXXXXXXXX	
Computer description:		
Workgroup:	WORKGROUP	
Windows activation Windows is not activated	Read the Microsoft Software License Terms	
Product ID: 00000-00000-	00000-00000	Activate Windows

4-(2) Enter the product key.

Recycle Bin	
	Enter a product key Your product key should be on the box that the Windows DVD came in or in an email that shows you bought Windows Samilar to this: PRODUCT KEY: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
	Product key Dashes will be added automatically Cancel
	Windows Server 2012 R2
	2 📑 🔳 🔞 6 1229Ab

License is activated after the entry of the product key.

Complete license authentication process according to the message.

- 5. When the server is connected to Internet, perform the following process.
 - 5-(1) Open the command prompt as Administrator, type the following and then press <Enter> key.

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

5-(2) Activate your license by phone.

,	Open R	un, type "slui 4", and then press the <enter></enter>	key."
		Run 🛛 🗙	
		Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.	
	<u>O</u> pen:	slui 4 🗸 🗸	
		🛞 This task will be created with administrative privileges.	
		OK Cancel <u>B</u> rowse	

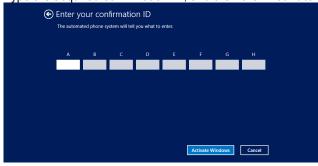
5-(3) On the next screen, select your country, and then click Next.

Select your country or region		
Afghanistan 🗸	l	
	Next	Cancel

Acquire the installation ID required for license activation.

								lation ID (I tries or req	
charges i	пау ос ар	plied by it	scal operat		i-nee nun	ibers in ce	rtain courr	uies or reg	ions.
Toll free:									
not availa	ible								
Toll:									
(971) (4) 3	391 7000								
Installati	on ID:								
0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000	

5-(4) Call the Microsoft license activation hotline and then tell your installation ID. Type the acquired confirmation ID, and then click **Activate Windows**.



This completes authentication.

(2) Server Core installation

1. Type the following at the command prompt, 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, skip the next and the subsequent steps.

2. Change the product key as follows.

Using Backup DVD:

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

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

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 by using the Internet or telephone.

Using the Internet:

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

 $C: \verb|Users|administrator> \texttt{slmgr} -\texttt{ato}$

The authentication is now finished.

Using telephone:

Type the following command to get an installation ID for authentication, and then press <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 your installation ID. Type the confirmation ID in the following command, and then press <Enter> key.

C:\Users\administrator>slmgr -atp <confirmation id=""></confirmation>	C:\Users\ad	<i>ministrator</i> >slmgr	-atp	<confirmation< th=""><th>ID></th></confirmation<>	ID>
---	-------------	---------------------------	------	--	-----

The authentication is now finished.

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.
- In the Properties window, click Enable or Disable for NIC teaming. The NIC teaming setup tool will launch.

(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 will start.
- 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 virt machines.				
Dynamic	 Distributes the load based on IP addresses and port numbers in sending. Distributes the load same to "Hyper-V Port" in receiving. 				

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.

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

(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 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	
i	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files For Setup	
٩	Maintenance	
K	Exit	Version 7.10-000.01(001)

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.

EXPRE	ESSBUILDER			NEC							
	Integrated Installation										
Ð	Install the following software. - Install Starter Pack prior to installing the - Uninstall the application prior to reinstall C Starter Pack		on.								
	C Applications NEC ESMPRO ServerAgentService Express Report Service Express Report Service (HTTPS) Microsoft. NET Framework Version 4.5.2 Viniversal RAID Utility Product Info Collection Utility Ezcict Viewer NEC ExpressUpdate Agent	Rev1.22 Rev3.5E Rev3.6 Rev4.10 Rev2.9.3 Rev2.2.0 Rev3.18	Not installed Not installed Not installed Not installed Not installed Not installed Not installed Not installed	ıll							
	Note	• If your	ations availa system envi innot install it	ronment	does	not sa	tisfy the	e prere	quisite	for an app	

- 5. When the completion message appears, click **OK**, and then remove the EXPRESSBUILDER DVD 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 system.

Now installation of applications is completed.

3.10 Installation When Multiple Logical Drives Exist

Back up the user data before starting installation.

(1) Installation 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 NEC Storage) or hard disk drive in Disk Expansion Unit

See *Chapter 1 (3.2 Setup with EXPRESSBUILDER)*, and proceed with setup. In this case, EXPRESSBUILDER installs the Windows on the first found hard disk drive or logical drive.

- Setup with Windows standard installer
 - 1. See 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 *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. See *Chapter 1 (3.3 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. 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

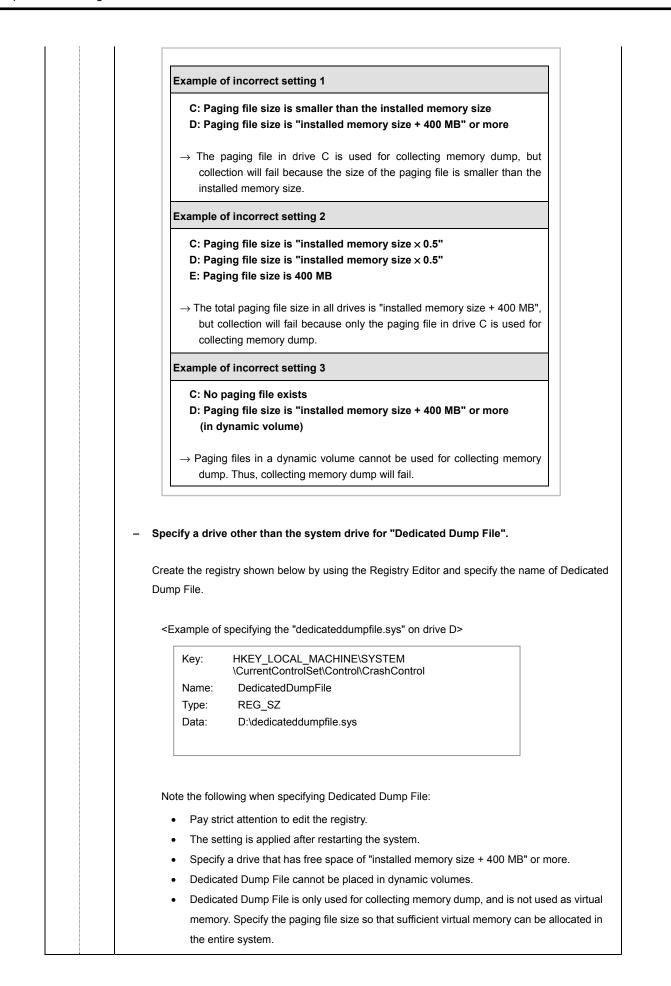
Read through the following precautions before starting setup.

- EB
- : Precautions for setting up with EXPRESSBUILDER
- **OS** : Precautions for setting up with Windows standard installer

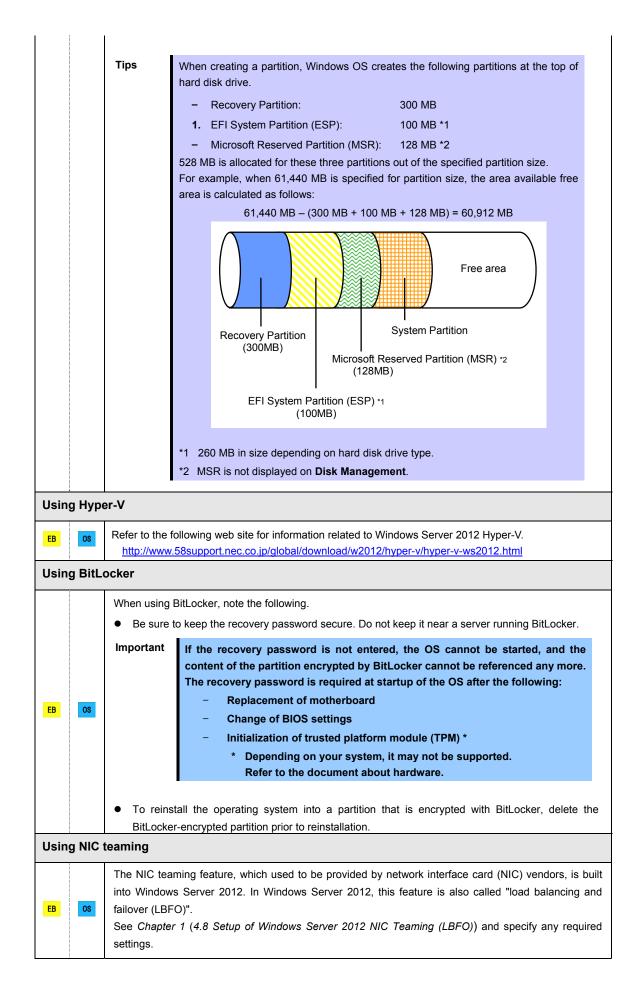
BIOS settings								
EB	08	Change Boot Mode to UEFI Mode. See Chapter 2 (1. System BIOS) in Maintenance G details.						
		Boot \rightarrow	$ m Boot\ Mode ightarrow UEFI$					
EB	08		Select Enabled for X2APIC feature of processor. See <i>Chapter 2 (1. System BIOS)</i> in <i>Maintenance Guide</i> for details.					
		Advanced \rightarrow Processor Configuration \rightarrow X2APIC \rightarrow Enabled						
			stallation, open Boot Option Priorities in BIOS Setup Utility to make sure that ority than Windows Boot Manager is specified for optical disk drive.	the higher				
			Example of correct setting					
			 [Boot]–[Boot Option Priorities] – Boot Option #1 [UEFI: Optical Disk Drive] – Boot Option #2 [Windows Boot Manager] → The system can boot from OS installation media. 					
EB	OS	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. 					
		Note	 Be sure to insert OS installation disc into optical disk drive before running. Utility. If Windows Boot Manager is not displayed in Boot Option Priorities, y confirm the boot priority. 					

Hard	Hardware configuration					
The f	The following hardware configurations require special procedures.					
EB	OS	Reinstalling to a mirrored volume When you install Windows Server 2012 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.				
EB	OS	RDX and Magneto Optical (MO) disc, and other peripheral devices 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 other tape media Do not set media that is unnecessary to installation during setup.				
EB	OS	Installing in internal or external multiple hard disk drives (logical drives) For details on installing operating systems to a system in which two or more RAID controller exist, or to an external disk drive* that is not subject to setup, see Chapter 1 (4.10 Installation When Multiple Logical Drives Exist). * Disk array unit (such as NEC Storage) or hard disk drive in Disk Expansion Unit.				
EB	OS	Reinstalling to hard disk drives that have been upgraded to dynamic disks If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be reinstalled to it with the existing partitions. Set up the operating system with the Windows standard installer.				

EB 08 Setup when mass memory is installed If large capacity memory modules are installed in your system, the large size of paging file and dump file are required at installation. If you fail to allocate the dump file, allocate the required file space to multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Specify another disk as the destination to save the dump file by reading Chapter 1 (6. Setup for Solving Problems). If the hard disk drive does not have enough space to write the dump file, set the partition size to a size sufficient to install the OS and paging file, and then add another hard disk drive for the dump file. Note If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive. If sufficient space cannot be allocated for the paging file, perform either of the following after install Windows. Specify a hard disk drive other than the system drive as the location to save the paging file for collecting memory dump Create a paging file of the installed memory size + 400 MB or more in a drive other than the system drive. The paging file that exists in the first drive (in the order of drive letter C, D, E, ...) is used as the temporary memory dump location. The size of the paging file must be "installed memory size + 400 MB" or more. Paging files in dynamic volumes are not used for dumping memory. The setting is applied after restarting the system. Example of correct setting C: No paging file exists D: Paging file size is "installed memory size + 400 MB" or more \rightarrow The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.



Syst	em par	tition size					
EB	OS	The system partition size can be calculated by using the following formula.					
		Size required to install the OS + paging file			e size + dump file size + application size		
		Server wit	th a GUI				
		Size re	quired to install the OS		= 9,400 MB		
		Paging	file size (recommended)		= installed memory size \times 1.5		
		Dump	file size		= installed memory size + 400 MB		
		Applica	ation size		= as required by the application		
		Server Co	re installation				
		Size re	quired to install the OS		= 6,300 MB		
		Paging	file size (recommended)		= installed memory size × 1.5		
		Dump	file size		= installed memory size + 400 MB		
		Applica	ation size		= as required by the application		
	For example, if the installed memory size is 4 OD (4 004 M				CP (1.024 MP) application size is 100 MP, and Sonv		
	For example, if the installed memory size is 1 G with a GUI is selected, the partition size is calcul						
	9,400 MB + (1,024 MB × 1.5) + 1,024 ME			024 MB	+ 400 MB + 100 MB		
= 12,460 MB							
			nentioned partition size is the minimum partition size required for system installation.			۱.	
	Ensure that the partition size is sufficient for s			ystem operations.			
		The following pertition since are recommended					
		The following partition sizes are recommend					
		Server with a GUI :			32,768 MB (32 GB) or more		
		Server Core installation :			32,768 MB (32 GB) or more		
		*1 GB = 1,024 MB					
		Note	• The above paging file	eizoe ar	e recommended for collecting debug information		
		Note			he Windows partition paging file must be large		
			enough to save dump		ne windows partition paging ne must be large		
					paging file size. If the paging file is insufficient, there		
					ge that may result in an inability to collect correct		
			debug information.	,	J		
			 Regardless of the size 	s of inte	rnal memory and write debug information, the		
					e is "size of internal memory + 400 MB".		
					ons or other items, add the amount of space needed		
			by the application to th				
		I					
		If the new !!!	n oizo for installing Mar-	owo !	mollor than the recommended size surged the set	n	
		•	-	UWS IS S	maller than the recommended size, expand the partitio	11	
		size or add a	another hard disk drive.				



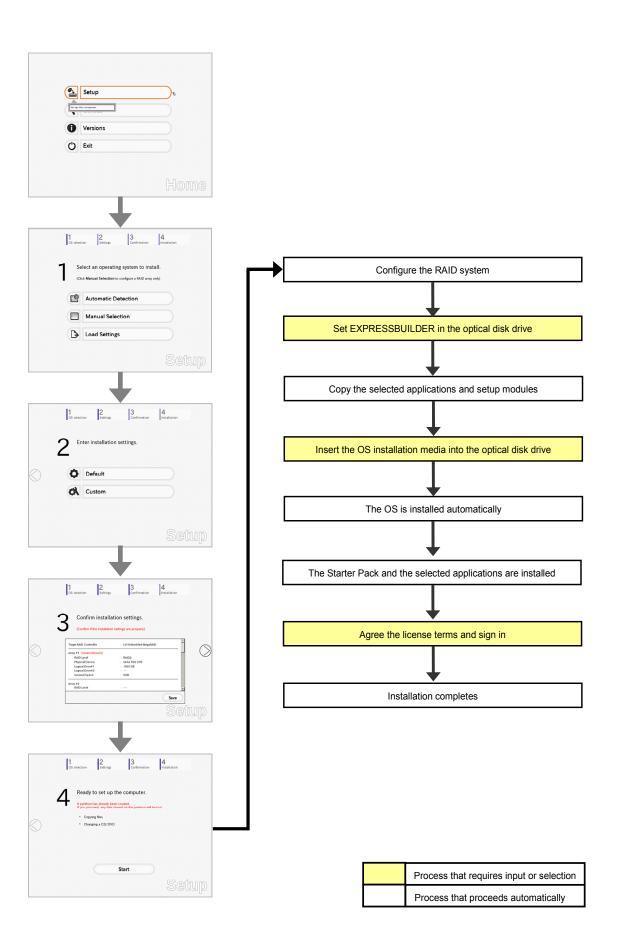
4.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

Important	 Setup with EXPRESSBUILDER deletes all data of the hard disk drive depending on the settings. Pay attention to specify the following parameters: RAID settings Partition Settings Backing up user data is recommended. 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.
Note	 The Scalable Networking Pack (SNP) feature is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP feature may affect the system performance. Contact your sales representative for details. 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 <i>Maintenance Guide</i> when creating RAID10.
Tips	 Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory. For details on creating a parameter file, see <i>Chapter 1 (7. Windows OS Parameter File)</i>.

4.2.1 Setup flow



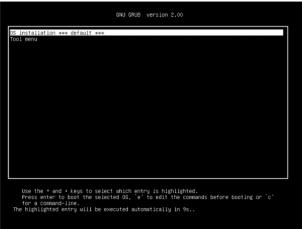
4.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation disc
 - NEC operating system installation disc (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation disc (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

4.2.3 Setup procedure

- Turn on a display, and then turn on the server. Confirm BIOS settings are correct by using BIOS Setup Utility. For more precautions, see *Chapter 1* (4.1 Precautions for Setting Up).
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 3. Choose OS installation *** default ***



The following screen appears.



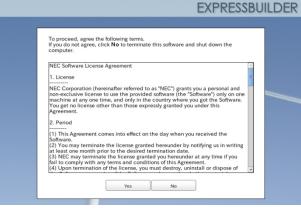
The server starts from EXPRESSBUILDER.



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



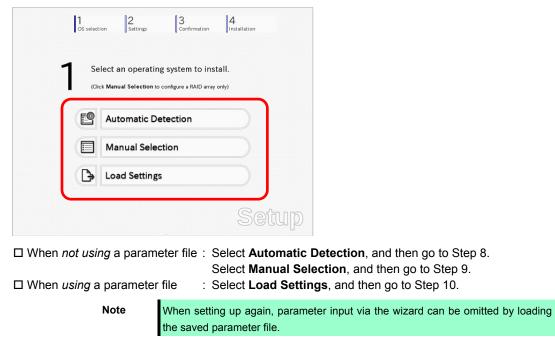
5. When the following screen appears, read the contents and click Yes.



6. Click Setup.

Set up	Setup	2
•	Versions	
٢	Exit	

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.

1 2 3 OS selection Settings Con	firmation Installation
Select an operating system (Click Manual Selection to configure a	
Automatic Detection	n v
Select an operating system automatically with an installation disc.	
Load Settings	
	Setup

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

Insert the OS	installation disc.			-
EXPRESSBUI	LDER will detect	the OS you want t	o install.	
		[Me	ssage ID : B2014]	
2				



S	elect an operating system to in	stall.
(C	lick Manual Selection to configure a RAID arr	ay only)
1	Automatic Detection	
	Manual Selection	
ß	Load Settings	

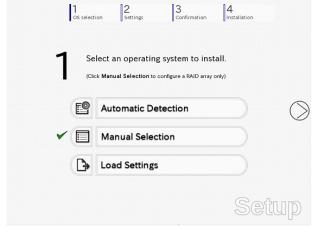
9. When not using a parameter file, select an OS by using the following procedure.

9-(1)	Click Manual Selection.
	1 Settings 3 Annual Installation
	Select an operating system to install. (Click Manual Selection to configure a RAID array only)
	Automatic Detection
	Manual Selection
	You can select the target OS of the installation from the menu
	Setup

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

	Select an operating system to install.	
	Windows Windows Server 2012	\$
	O RAID Configuration Only	
?		

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



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

1 OS selec	tion 2 Settings 3 Confirmation	4 Installation
	elect an operating system to in: ck Manual Selection to configure a RAID arra	
E	Automatic Detection	
	Manual Selection	
B	Load Settings	N
Load	nstallation settings.	Setup

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

Maria Bara	
Search Endrom1	05/08/2014
Becently Used	
🛅 root	
23 Desktop	
File System	
Documents	
Music	
Pictures Videos	
Downloads	=
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	Select an ope	erating system t	o install.	
1	(Click Manual Sele	ction to configure a RA	ID array only)	
E	Automat	ic Detection		
	Manual	Selection		
¥ B	Load Set	ttings		

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 OS select	ion Settings	3 Confirmation	4 Installation	
	2 "	iter installation	settings.		
\bigcirc	Ø	Default			\bigcirc
	~ Ø	Custom			
				Set	qu,

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.

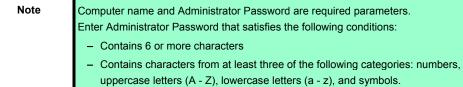
2 En	ter installation settings.	
0	Default	
8	Custom	

12. Click Default.

	1 OS selection	2 Settings	3 Confirmation	4 Installation
	2 Enter i	nstallation s	ettings.	
	2			
\bigcirc		m settings for the		₽
	used for other s	m settings for the ault values are ettings.		
				Setup

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

Enter the minimum setti Click Custom if you wa	ngs to set up the compi nt to use the Windows s	uter. tandard installer.		
Basic Settings				_
Operating system	: Windows Se	erver 2012		
Edition	: Standard(S	Server with a GUI)	0	-
Language	: English	0		
Password Setting	s			-
Administrator F	assword	:	(Required)	
Reenter Admin	istrator Password	:	(Required)	
L				
	Finish		Cancel	



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

	1 OS select	ion Settings	3 Confirmation	4 Installation	
	2	nter installation	settings.		
\bigcirc	~ Q	Default			\bigcirc
	Ø	Custom			
				Set	:up

13. Click Custom.

	1 2 OS selection Settings	3 Confirmation	4 Installation
	2 Enter installation	settings.	
\bigcirc	Default		
	Specify all settings for the installation.]	₽,
			Setup

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

Device	Information			
RAII	D Controller		De	tail
Nur	nber of Physical Drives	2		
Summa	ary of RAID Array			
Array RAID	r #1 0 (1disk) cal Drive1 (1117GB)			и »
				-
RAID	Configuration			
V	Skip Configuring RAID Array			
			1/11	

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.

	Basic Settings Operating system	: W	/indows Server 2012	
		s standard installer	DER	
	Edition		Server with a GUI)	0
	Language Time Zone	: English : (UTC-08:0	0) Pacific Time (US & Can	ada)
1				4 / 11 Page

13-(3)	Check the	settings	specified	for Pa	rtition	Setting	gs.
	Modify the	settinas	as neede	d. and	then c	lick Ne	xt.

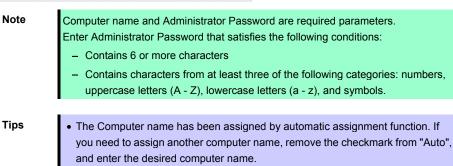
Win	ecify the settings of the system partition for Windows. Idows will be installed into the first hard disk drive or logic data currently on an existing partition, shown with a red fr	
	Irrent Partitions (the area shown with a red frame will be deleted) :	
	(0.3GB) (Total:40.3GB) (0.1GB) (1076GB) Partition Settings	
	Create a new partition O Use all space Type a partition size : 41	인(GB) *1TB=1024GB mended: 40GB / Maximum: 1116GB)
		5 / 11 Page
	Back Next	Cancel

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. Type Computer Name within 15 cl				
Administrator Password must be a	at least six charac	ters in length an	d must contain characters fr	rom
three of the four categories (number	s/uppercase/lowe	rcase/symbols).		
User Information				_
Computer Name	: 🗹 Au	tomatic Number	ing	
		94570815	(Required)	
User Name	: Admin	istrator		
Administrator Password	:		(Required)	
Reenter Administrator Passwo	ord :		(Required)	
			6 / 11 Page	

Ν	o



• 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 fo	r Network F	rotocols
()	Modify the settings	as needed	and then cli	ck Next

se ouscom secting	s, click Advanced, if	you want to type a	n IP address.
 etwork Protocols			
 Standard Set 	ttings		
Custom Setti			
	pter - Internet Protoci	ol (IPv4)	Advanced
			7 / 11 Page
			.,



Note

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

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.

Ioin a workgroup	
Workgroup Name	: WORKGROUP
O Join a domain	
Domain Name	:
Account Name	:
Password	:
Reenter Password	:

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

roose Windows components you want to install.			Choose Windows components you want to	ə install.	
Server Roles Web Server (IIS) DKS Server Server Server Hyper-V Windows Features Single TCP:(IP Services WHXS Server	Advanced	C	Server Roles Ubb Server (IIS) Ubb Server Ubb Server Server Server Server Server Servee Ubb Servee Ubb Server	Print and Document Services File Services Hyper-V	Advanced
Back Next	9 / 11 Page		Back Next		9 / 11 Page

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
Description	Add >> MEC ESMPRO SenerAgentService Express Report Service Express Report Service Utility Add >> Winesal KAID Utility Microsoft, NET Framework Version 3.5.1 Microsoft, NET Framework Version 4.5.2 NEC ExpressUpdate Agent
	10 / 11 Page

On the following screen, click Finish.

The settings are now complete. 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.



14. Check the parameter settings.

To save the settings, click Save.

	1 2 OS selection Settin	angs Confirmation	on Installation	
1	Confirm insta	llation settings.		
~	(Check if valid instal	lation settings are specifie	rd)	
	Skip configuring RAID array.			
	Operating system	: Windows Ser	ner 2012	
	(Install Windows using EXPRES			
	Edition	: Standard(Ser	rver with a GUI)	
	Language	: English		
			Save	
			0	-1-01

Click \bigcirc on the right side of the screen.

15. The setup process starts.

1 OS selection	2 Settings	3 Confirmation	4 Installation
Д (9 lost
• Cont • Cop	iguring RAID system ving files		
	<u></u>	Start	Setup
	4 Ready A partition If you pro	4 Ready to set up the Apartition has already been Apartition has already been Apartition has already been Apartition has already been 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	1					_
	Insert the	EXPRESSBUIL	DER disc to th		age ID : J2002]	
2						
		ОК	Can	cel		

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

	Insert the OS installation disc.
	Click OK to proceed to the automatic setup. (30-90 minutes until completion)
	Do not use the mouse and keyboard during the setup until the prompt screen appears.
0	[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.

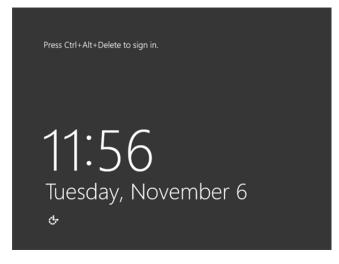
$1_{/_2}$ \downarrow $2_{/_2}$
Installing Starter Pack.
Please wait for a while.
$1_{/_2}$ $2_{/_2}$
Installing applications.
Please wait for a while.

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).
S	ettings
Pie	ase read the license terms.
	CROSOFT SOFTWARE LICENSE TERMS CROSOFT WINDOWS SERVER 2012 STANDARD
Th	ise 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 by to any Microsoft
	updates,
	supplements,
	Internet-based services, and
	support services
fro	the software, unless oftwar terms accompany those terms, F w) there terms apply. F you obtain updates or supplements directly intercardy. Account, and or tab moundatorian or installer, licenses those to you. Proted paper license terms, which may come the software, take place of any on-screen license terms.
	Laccept the license terms for using Windows
ዯ	Ассеря

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



On the following screen, type the password you have set in Step 12-(1) or 13-(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.

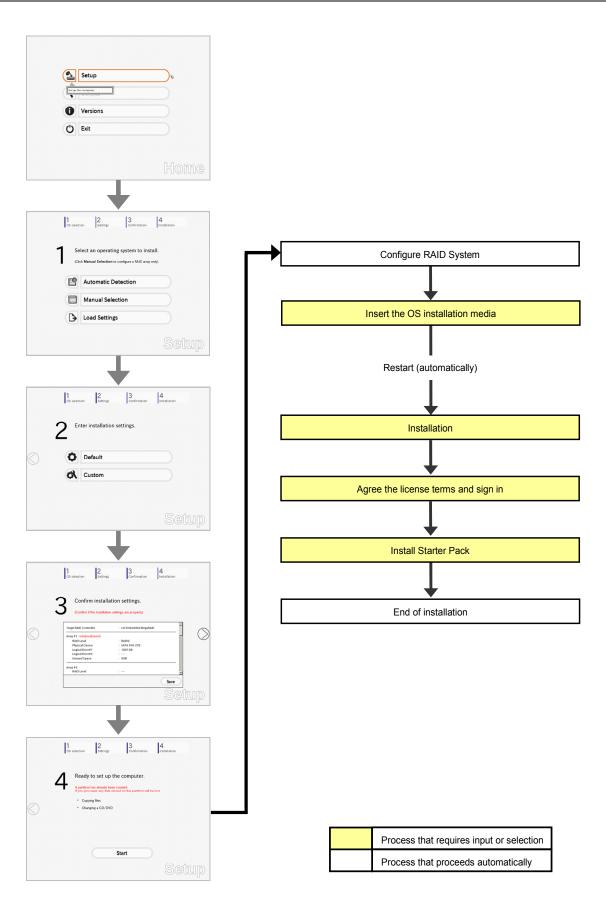
4.3 Setup with Windows Standard Installer

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

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

Important	Setup with Windows standard Installer deletes all data of the hard disk drive depending on the settings. Pay attention to specify the following parameters: –RAID settings Backing up user data is recommended.
Note	The creation of RAID10 by using the onboard RAID controller (LSI Embedded MegaRAID) is not supported. See <i>Chapter 2</i> (5. <i>RAID System Configuration</i>) in <i>Maintenance Guide</i> when creating RAID10.
Tips	 Setup with Windows Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory. For details on creating a parameter file, see <i>Chapter 1 (7. Windows OS Parameter File)</i>.

4.3.1 Setup flow



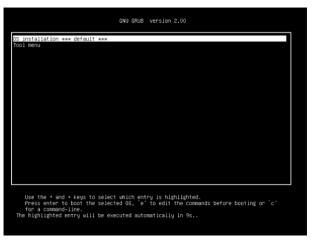
4.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation disc
 - NEC operating system installation disc (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation disc (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
 - Removable media for OEM drivers (Windows Server 2012)

4.3.3 Setup procedure

- Turn on a display, and then turn on the server. Confirm BIOS settings are correct by using BIOS Setup Utility. For more precautions, see *Chapter 1 (4.1 Precautions for Setting Up)*.
- 2. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 3. Choose OS installation *** default ***.



The following screen appears.



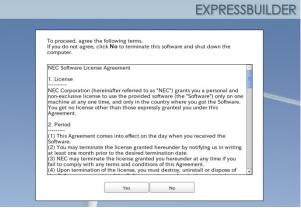
The server starts from EXPRESSBUILDER.



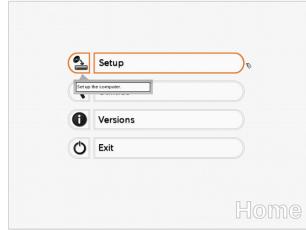
4. Choose English on the language selection window, and then click OK.



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



6. Click Setup.



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

1 Settings 3 Confirmation	n 4 Installation
Select an operating system to i (Click Manual Selection to configure a RAID an	
Automatic Detection	
Manual Selection	
Load Settings	
	Setup
□ When <i>not using</i> a parameter file	: Select Automatic Detection , 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.
	n setting up again, parameter input via the wizard can be omitted by loading aved 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 Confirmation	4 Installation
Select an operating system to in (Click Manual Selection to configure a RAID and	
Automatic Detection	₽
Select an operating system automatically with an installation disc.	
Load Settings	
	Setup

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

	e OS installation di SBUILDER will dete	sc. ct the OS you want to	install.
		[Mess	age ID : B2014]
3			
	ОК	Cancel	

8-(3)	Click 🔘 d	_				o step 11.
		OS selecti	ion Settings	3 Confirmation	4 Installation	
	-			ng system to ins o configure a RAID array		
	*	ſ	Automatic D	etection		\bigcirc
			Manual Sele	ction		
		Þ	Load Setting	s		
					Se	tup

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

1.	S selection	3 Confirmation	4 Installation
1	Select an operati		
	Automatic [Detection	
(Manual Sel	ection	<i>b</i>
Ó	You can select the target OS of the installation from the menu.]5	
			Setup

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

	Select an operating system to install. Windows Windows Server 2012
6	C RAID Configuration Only
B	

0-(3) CI	Click 🖸			of the screer		step 11.
				ng system to ins to configure a RAID array		
		Ľ	Automatic D	etection		\bigcirc
		•	Manual Sele	ection		
		B	Load Setting	gs		
					Set	tup

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

1 OS selecti	on Settings	3 Confirmation	4 Installation
	ect an operating		
2	Automatic De	tection	
	Manual Selec	tion	
Ð	Load Settings		₽
Load ins	tallation settings.		Setup

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

Places	Name	~	Size Modified
🙀 Search	Cdrom1		05/08/2014
Recently Used			
🛅 root			
🔯 Desktop			
🔜 File System			
Documents			
Music			
Pictures			
Videos			
Downloads 🛅			
A dd			
Add Remov			

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.

	elect an operating system to install.
-	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 11.

Click **Custom** to check and modify the setting in the wizard. \rightarrow Go to step 10-(1).

OS select	on Settings	Confirmation	4 Installation	
2 『	ter installation s	ettings.		
Ø	Default			
10 ~	Custom			

11. Click Custom.

	1 OS selection 2 Settings	3 Confirmation
	2 Enter installation set	tings.
\bigcirc	Default	
	Custom	¢
		Setup

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

selected.	Information		
	D Controller	:	Detail
Nur	nber of Physical Drives	: 2	
Summ	ary of RAID Array		
	/#1 10 (1disk) cal Drive1 (1117GB)		-
Arros	, #9		Č
	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.

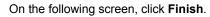
When skipping the creation of new logical drives

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.

-Ba	isic Settings				
	Operating system	: W	/indows Server 2012		
1	Use Windows sta	and ard installer			
	Cse windows sta	indard installer			
	· O Install Windows u	sing EXPRESSBUIL	DER		
	Edition		Server with a GUI)		
	Language	: English			
	Time Zone		00) Pacific Time (US 8	Canada)	
					4 / 11 Page



The s Click	settings are now co Finish to close th	omplete. iis window.	
_			
1			
			11 / 11 Page
	Back	Finish	Cancel

11-(3) On the following screen, 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	∠ Settings	3 Confirmation	Installation	
2	Confirm i	nstallation	settings.		
3	(Check if valid	d installation set	tings are specified)		
	kip configuring RAID a	агтау.			
-	Operating system		: Windows Server	2012	
(Use Windows standard	d installer)			
-				Save	
				Re	- n nr

13. The setup process starts. Click **Start** to continue set

Click St	art to conti	nue setup).		
	1 OS selection	2 Settings	3 Confirmation	4 Installation	
	4	y to set up th			
	A partitio If you pr	on has already been o roceed, any data stor	reated. ed on the partition will be	e lost.	
_	* Co	nfiguring RAID system	1		
$\langle \rangle$	* Ch	anging a CD/DVD			
\sim	* Inst	talling an OS			
			Start		
				Sett	UN
					-

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

	Insert an OS installatio	n disc for installing.	[Message ID	: J2000]
2				

- 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 "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.



18. Click Install now. Windows setup starts.

т б а	Windows Setup	
	Windows Server 20	012
	Install now	
<u>R</u> epair your computer		
© 2012 Microsoft Corporation. All righ	its reserved.	

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

ad driver	×
	s is missing. This could be a DVD, USB or Hard disk flash drive with the driver on it, please insert it
Note: If the installation media for Wi can safely remove it for this step.	ndows is in the DVD drive or on a USB drive, you
	Browse OK Cancel

19. Select the destination, and then click OK.

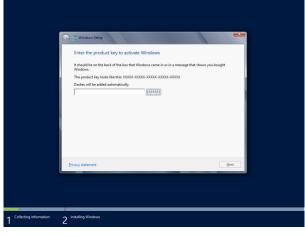
Internal Flash Memory:\015\win\winnt\drivers\01_storage\1_al_04

Tips

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

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

- 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.

	20 Windows Setup Select the operating system you want to install		-	-
	Operating system Windows Server 2012 Standard (Server Cerc Installation) Windows Server 2012 Standard (Server with a GUI)	Architecture x54	Date modified 7/26/2012 7/26/2012	
	Drockforn Thropforn Processing and the solid is responder-for example, to response to a solid the sum on a farent for installation pappote. You can write the a different installation spison to Options?	All server roles and t	features are	
Į			Net	
1 Collecting information	2 Installing Windows			

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

HIGKOSOFT WINDOWS SERVIC 2012 STAINARD These locesite between you and the server menufacturer that distributes the software with the server; or the software existing the distributes the software with the server; Preserver and there in the distributes the software with the server; Preserver and there. They apply the bank have manual dows, which includes the media on which you received it, if any. The terms also apply to any Microsoft - updates, - updates, - updates,	These locesse terms are an agreement between you and the server minutestativer that distributes the software with the server; or the software studies the distributes the software with the server. Please read them: They apply to the software sound above, which includes the media on which you received it, if any. The terms also apply to any Microsoft - updates,
the server manufacturer that diability/set the software with the server; or the software installed that diability the software with the server. Preserver diability in the software installed solver, which includes the media on sublich your restrined is if any. The terms solve apply to any Microsoft updates, updates, updates, updates, updates,	 the server manufacturer that distributes the software with the server; or the software installer that distributes the software with the server. Please read them. They apply to the software mane above, which includes the media on which you ensure (if a direct, The terms also apply to any Microsoft - updates;
the aothware installer thad distributes the software with the server. Please read them. They apply to the software named above, which includes the media on which you encound of a dwn, The terms also apply to any Microsoft updates, applements, Placept the Konset terms	 the software installer that diaboluts the software with the server. Please read them. They apply to the unthaver normal above, which includes the media on which your received it, if any. The terms also apply to any Microsoft splatters,
Please read them. They apply to the software normal above, which includes the media on which you received it, if any. The terms also apply to any Microsoft - updates, - updates, - updates, - applements,	Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft - updates,
which you received it, if any. The terms also apply to any Microsoft updates, supplements, Figureget the locanse terms	which you received it, if any. The terms also apply to any Microsoft - updates,
→ Facept the loanst terms	* supplements,
	· · · · · · · · · · · · · · · · · · ·
	□ 9 gccpt the Scene terms

24. Select the installation type.

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

9	🦉 Windows Setup	
	Which type of installation do you want?	
	Upgrade: Install Windows and keep files, settings, and applications The files, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already running on the computer.	
	Content: Install Windows only (selvanced) The files, utilings, and applications and its word to Windows with this option. If you want to much change to particles and a diver, set the compared units the installation disc. We recommend bucking up your files before you continue.	
	Lielp me decide	
1 Collecting information 2	Installing Windows	

25. "Where do you want to install Windows?" window appears. If a RAID controller is not used, go to step 29.

If you select Load Driver, the following message appears.

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				

When load the driver from EXPRESSBUILDER DVD, replace the OS installation media with EXPRESSBUILDER DVD in the optical disk drive.

26. Click Browse, and then click OK.

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

If using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive: \015\win\winnt\drivers\01_storage\1_al_04

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

LSI Embedded MegaRAID

28. If you inserted the EXPRESSBUILDER DVD in Step 25, remove it, and then insert the OS installation media.





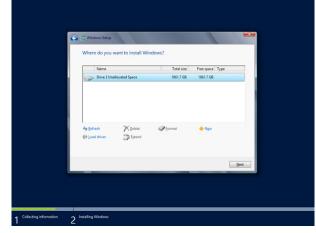
A Windows cannot be installed to this disk. (Show details)

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 33.

G	Windows Setup		
	Where do you want to install Windo	ws?	
	Neme	Total size Free space Type	
	Drive 3 Unallocated Space	1861.7 GB 1861.7 GB	
	4g Balrach €9 Load driver	Drive splines (gebunced)	
		Net	
1 Collecting information 2	Installing Windows		

30. Click New.



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

Name Drive 3 Un	allocated Space	Total size 1861.7 GB	Free space Type 1861.7 GB	
fg Betrech	Relete	@Eormat	🔶 Ngw	
🕑 Load driver	Extend	Size: 1906394	MB Apply Can	cel
			Nex	t

When the following windo	ow appears, click OK .
Vindows Setup To ensure that all Windows for syste additional partitions for syste	eatures work correctly, Windows might create
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)

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

Free space Typ	Total size		Where do you
273.0 MB Rec	300.0 MB	Partition 1: Recovery	
95.0 MB Sys	100.0 MB		Drive 0 Par
128.0 MB MS	128.0 MB	Partition 3	Drive 0 Par
278.4 GB Prin	278.4 GB	Partition 4	Drive 0 Par
₩ Ngw		Delete	€ Befresh ⓓ Load driver

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.

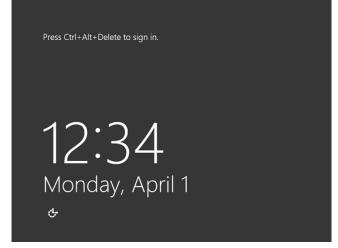
When the following message appears, Windows installation starts automatically.

Windows Setup		
nstalling Windows		
our computer will restart several times. This might ta	ke a while.	
Copying Windows files (0%)		
Installing updates		
Finishing up		
_		
	nstalling Windows sur computer will restert several times. This might ta Copying Windows files (0%) Getting files mady for installation Installing factures	nstalling Windows our computer will retert sevent times. This might take a white. Copying Windows (Res (PN) Control (Res Hondows (Res (PN)) Installing statures Installing statures

34. Type a password and click Finish.

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

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

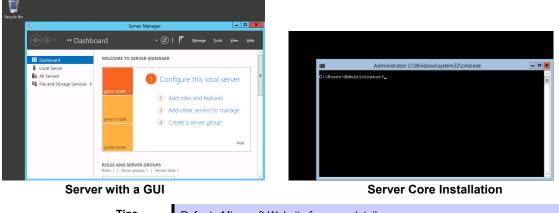


36. <u>Type the password and press Enter</u>.



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 Windows.

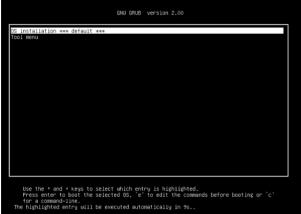
Important	 Also install Starter Pack in the following cases. The motherboard of the server has been replaced (If a dialog box prompting system reboot is displayed, reboot the system according to the on-screen instructions, and then apply the Starter Pack.) If the system was restored using a restore process
	 If a system has been restored using the backup tool 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) feature is disabled upon Starter Pack installation is complete. The setting of SNP feature may affect the system performance. Contact your sales representative for details.
Tips	If the OS is installed by EXPRESSBUILDER without using Windows Standard Installer, Starter Pack is already installed. If the hardware configuration is not changed, you do not need to install 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.



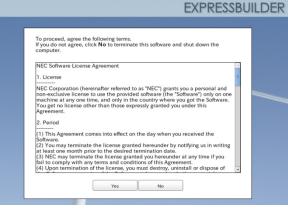
The server starts from EXPRESSBUILDER.



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



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



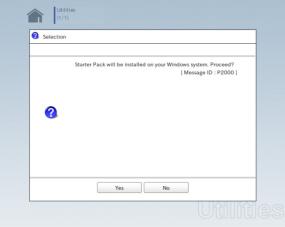
6. Click Utilities.

Setup)
Utilities	ß
Move to Utilities Menu.	
C Exit	

7. Click Starter Pack Installation.



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



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

1 Informati	01
	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 Server Core mode.
	[System Drive]:\StartPKG\app_pkg.bat
	[Message ID : P1003]
	Close

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

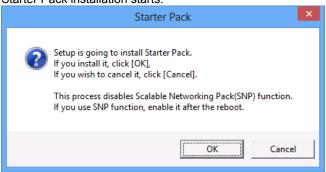
C:\StartPKG>**app_pkg.bat**

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)

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

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

13. Click OK to restart the system.

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

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 2 (6. Details of EXPRESSBUILDER) in Maintenance Guide.

- 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.

		NEC EXPRESSBUILDER	
EXPRE:	SSBL	JILDER	NEC
		Instruction Manuals	
	0	Versions	
	F	Integrated Installation	
		Applications	
		Files For Setup	
	٩	Maintenance	
		Exit	Version 7.10-000.01(001)

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

EXPRE	ESSBUILDER			NEC
	Integrated Installation			
	Install the following software. - Install Starter Pack prior to installing th - Uninstall the application prior to reinsta		ion.	
	Starter Pack			
9	Applications Incc 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	
	III 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)				
			Ins	tall

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.

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.

Server Core Installation

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

Cd /d D:\015\win\winnt\bin C:\Users\administrator>cd /d D:\015\win\winnt\bin

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

```
Pkgsetup.vbs
```

D:\015\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 scr		
	NEC EXPRESSBUILDER	
EXPRESSBL	JILDER	NEC
	Instruction Manuals	
i	Versions	
2	Integrated Installation	
	Applications	
	Files For Setup	
۲	Maintenance	
M	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 as standard. For details of an optional device, refer to the manual that comes 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 LAN Driver. For BIOS settings, check the "User's Guide".
Note	 To change the LAN driver settings, sign in to Windows from a local console using an administrator 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\015\win\winnt\drivers
\02_network\1_as_02\install_ws2012.bat
```

If using EXPRESSBUILDER, run the following file.

\015\win\winnt\drivers\02 network\1 as 02\install ws2012.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(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\015\win\winnt\drivers \02_network\1_ag_01\install_ws2012.bat

If using EXPRESSBUILDER, run the following file.

\015\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 adapters with the same name, a different identification number will be assigned to xx.

Tips

ID of 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. The properties of the network adapter will be displayed.
- 3. On the Advanced tab, set the Speed & Duplex values to the same as those of the switching hub.
- 4. Click OK in the Network Adapter Properties dialog box.
- 5. Restart Windows.

The link speed setting is now complete.

(2) 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\015\win\winnt\drivers \02_network\1_ah_02\pgdyavd_disable.vbs

If using EXPRESSBUILDER, run the following file.

\015\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:<u>Done)]</u> Reboot the system

Tips

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

3. Restart the system.

Setup is now completed.

4.6.3 Using InfiniBand board (N8104-146/147)

If it is setup with EXPRESSBUILDER, the N8104-146/147 driver has been installed already.

If it is setup with Windows Standard Installer, the N8104-146/147 driver is installed automatically when Starter Pack is applied.

Furthermore, if the InfiniBand Adapter is newly connected to the above system, the N8104-146/147 driver is installed automatically.

 Important
 For the system that InfiniBand Adapter is connected, if Starter Pack is reapplied, the following system device may be disabled.

 In that case, please enable the system device in Device Manager.
 –

 Mellanox ConnectX-3 VPI (MT04099) Network Adapter

4.6.4 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\015\win\winnt \drivers\03_Graphic\1_aj_02\install.bat
 - When using EXPRESSBUILDER DVD: \015\win\winnt\drivers\03_Graphic\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.

4.6.5 Using a SAS controller (N8103-142/184)

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

4.6.6 Using a RAID Controller (N8103-179)

The driver for RAID controller N8103-179 is automatically installed by Windows Plug-and-Play.

4.6.7 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, install Starter Pack again.

4.7 License Authentication

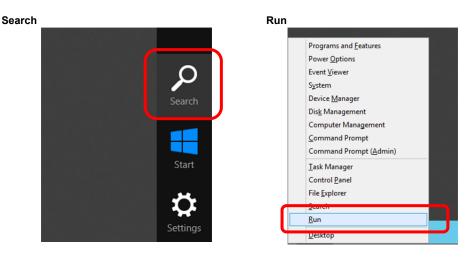
To use Windows Server 2012, perform the license authentication procedure.

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

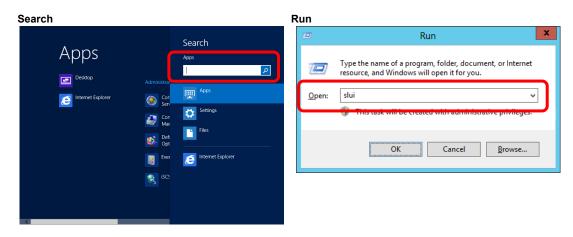
Connect to the Internet or use the telephone to perform the authentication procedure.

(1) Server with a GUI

1. Click **Search** on Charms Bar or click **Run** on the menu that appeared by right-clicking the bottom left corner on the screen.



2. Type "slui" in Search or Open, and then press <Enter> key.



3. Follow the on-screen message to continue the license authentication procedure.

۴	Windows Activation		L	- 0	x
🍥 💿 🕤 🕈 🏲 🕨 Cont	ol Panel + System and Security + Action Center + Windows Activation	C Search	Control Panel		,P
٣	Windows isn't activated Windows can't a activated right new. Try activateg Windows later. If this issue persists, contact Microsoft Cus Segment and a activate Windows.	tomer Service an	1		
	Current edition Windows Server 2012 Standard Current product lay *****_CDG9P				
	Contact Microsoft Customer Service and Support online What is a product key?				
	Read the Microsoft Software License Terms				
	Activation details		0		
				Can	ral
				Can	cei

Tips

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

Windows activation is now complete.

(2) Server Core installation

 Type the following command at the command prompt, 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, skip the next and the subsequent steps.

2. Change the product key as follows.

Using Backup DVD:

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

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

Using Windows Server 2012 DVD-ROM:

You do not need to change the product key.

Go to the next step.

3. Perform license authentication by using the Internet or telephone.

Using the Internet:

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

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

The authentication is now finished.

Using telephone:

Type the following command to get an Install ID for authentication, and then press <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 your Install ID.

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

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

The authentication is now finished.

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 press <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 will start.
- 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 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
i	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files For Setup	
٩	Maintenance	\supset
	Exit	Version 7.10-000.01(001)

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.

Integrated Installation			
Install the following software. - Install Starter Pack prior to installing th - Uninstall the application prior to reinst C Starter Pack		tion.	
C Applications			
NEC ESMPRO ServerAgentService Express Report Service	Rev1.22 Rev3.5E	Not installed Not installed	
Express Report Service (HTTPS)	Rev3.6	Not installed	
Microsoft .NET Framework Version 4.5.		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	
		Ins	tall

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 the completion message appears, click **OK**, and then remove the EXPRESSBUILDER DVD 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 system.

Now installation of applications is completed.

4.10 Installation When Multiple Logical Drives Exist

Back up the user data before starting installation.

(1) Installation 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 NEC Storage) or hard disk drive in Disk Expansion Unit

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

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

- Setup with Windows standard installer
 - 1. See 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. See *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. 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.

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

BIOS	settin	g
EB	OS	Change Boot Mode to Legacy Mode. See Chapter 2 (1. System BIOS) in Maintenance Guide for details. Boot \rightarrow Boot Mode \rightarrow Legacy
EB	OS	Select Disabled 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
Hardv	ware o	configuration
		The following hardware configurations require special procedures.
ЕВ	OS	Reinstalling to a mirrored volume When you install Windows Server 2008 R2 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.
EB	OS	Peripheral devices such as RDX/MO Remove an MO device before installing an OS. Some peripheral devices need to be halted before installation. Refer to the manual provided with the peripheral devices for how to set a device appropriate to installation.
EB	08	DAT, LTO, or similar media Do not set any media such as DAT or LTO while installing an OS.
EB	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, or to an external disk drive* that is not subject to setup, see <i>Chapter 1</i> (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 If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be reinstalled to it with the existing partitions. Set up the operating system with the Windows standard installer.

Setup when mass memory is installed EB 08 If mass memory is installed in your system, the large size of paging file is required at installation. Thus, the partition size for storing debug information (dump file) may not be secured. If you fail to secure the dump file size, allocate the required file space to multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Specify another disk as the destination to store the debug information (required dump file size) by referring to Chapter 1 (6. Setup for Solving Problems). If the hard disk drive does not have enough space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another hard disk drive for the dump file. Note If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive. If sufficient space cannot be secured for the paging file, perform either of the following after installing Windows. - Specify a hard disk drive other than the system drive as the location to store the paging file for collecting memory dump Create a paging file of the installed memory size + 300 MB or more in a drive other than the system drive. The paging file that exists in the first drive (in the order of drive letter C, D, E, ...) is used as the temporary memory dump location. Therefore, the size of the paging file must be "installed memory size + 300 MB" or more. Paging files in dynamic volumes are not used for dumping memory. The setting is applied after restarting the system. Example of correct setting C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or more \rightarrow The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.

Example	e of incorrect setting 1
	iging file whose size is smaller than the installed memory size iging file whose size is "installed memory size + 300 MB" or mor
coll	paging file in drive C is used for collecting memory dump, be ection may fail because the size of the paging file is smaller than the alled memory size.
Example	e of incorrect setting 2
D: Pa	iging file whose size is "installed memory size × 0.5" iging file whose size is "installed memory size × 0.5" iging 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 ecting memory dump.
Example	e of incorrect setting 3
D: Pa	o paging file exists Iging file whose size is "installed memory size + 300 MB" or more dynamic volume)
-	ing files in a dynamic volume cannot be used for collecting memor np. Thus, collecting memory dump fails.
	ve other than the system drive for "Dedicated Dump File". egistry shown below by using the Registry Editor and specify th
	egistry shown below by using the Registry Editor and specify the
reate the medicated Du	egistry shown below by using the Registry Editor and specify the
reate the medicated Du	egistry shown below by using the Registry Editor and specify the imp File.
reate the medicated Du	egistry shown below by using the Registry Editor and specify the imp File. cifying the file named "dedicateddumpfile.sys" in drive D>
reate the medicated Du	egistry shown below by using the Registry Editor and specify the imp File. cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
reate the medicated Du	egistry shown below by using the Registry Editor and specify the imp File. crifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile
reate the medicated Du <when spe<br="">Key: Name: Type: Data:</when>	egistry shown below by using the Registry Editor and specify the imp File. cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
reate the medicated Du <when spectrum<br="">Key: Name: Type: Data: Note the for</when>	egistry shown below by using the Registry Editor and specify the imp File. cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
reate the medicated Du <when spectrum<br="">Key: Name: Type: Data: Note the for Pay s</when>	egistry shown below by using the Registry Editor and specify the imp File. cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
reate the medicated Du <when specific<br="">Key: Name: Type: Data: Note the following Pays The second sec</when>	egistry shown below by using the Registry Editor and specify the imp File. cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys llowing when specifying Dedicated Dump File: strict attention to edit the registry. setting is applied after restarting the system.
reate the medicated Du <when specific<br="">Key: Name: Type: Data: Note the following Pay so The so Spec</when>	egistry shown below by using the Registry Editor and specify the imp File. cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys ellowing when specifying Dedicated Dump File: strict attention to edit the registry. setting is applied after restarting the system. ify a drive that has free space of "installed memory size + 300 MB" or
reate the medicated Du <when specific<br="">Key: Name: Type: Data: Note the foll Pay so The so Spec Dedic To co</when>	egistry shown below by using the Registry Editor and specify the timp File. cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys Howing when specifying Dedicated Dump File: strict attention to edit the registry. setting is applied after restarting the system. ify a drive that has free space of "installed memory size + 300 MB" or cated Dump File cannot be placed in dynamic volumes. Ilect memory dump by using Dedicated Dump File, a paging file is reco
reate the medicated Due <when spee<br="">Key: Name: Type: Data: Note the foll Pay s The s Spec Dedice To coordinates</when>	egistry shown below by using the Registry Editor and specify the imp File. cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys Howing when specifying Dedicated Dump File: circt attention to edit the registry. Setting is applied after restarting the system. ify a drive that has free space of "installed memory size + 300 MB" or cated Dump File cannot be placed in dynamic volumes. Ilect memory dump by using Dedicated Dump File, a paging file is record
reate the medicated Due <when spee<br="">Key: Name: Type: Data: Note the foll Pay se The se Spec Dedice To coordinates Dedice</when>	egistry shown below by using the Registry Editor and specify the timp File. Actifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys Howing when specifying Dedicated Dump File: Actify a drive that has free space of "installed memory size + 300 MB" of the cannot be placed in dynamic volumes. Here the memory dump by using Dedicated Dump File, a paging file is red

	ated by using the following formula. g file size + dump file size + application size
Full installations	
Size required to install the OS	= 15,600 MB (Windows Server 2008 R2 + Service Pack 1)
	 = 8,400 MB (Windows Server 2008 R2 with Service Pack 1) = 8,000 MB
	(Windows Server 2008 R2)
Paging file size (recommended)	= installed memory size $\times 1.5$
Dump file size	= installed memory size + 300 MB
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) = 3,700 MB
	(Windows Server 2008 R2 with Service Pack 1) = 3,500 MB
	(Windows Server 2008 R2)
Paging file size (recommended)	= installed memory size \times 1.5
Dump file size	= installed memory size + 300 MB
Application size	= as required by the application
installations is selected, the partition size	in colouistad on follows:
8,000 MB + (1,024 MB × 1.5) + 1,02 = 10,960 MB	
8,000 MB + (1,024 MB × 1.5) + 1,02 = 10,960 MB The above mentioned partition size is t Ensure that the partition size is sufficient The following partition sizes are recomm	4 MB+ 300 MB+ 100 MB ne minimum partition size required for system installation for system operations. ended.
8,000 MB + (1,024 MB × 1.5) + 1,02 = 10,960 MB The above mentioned partition size is t Ensure that the partition size is sufficient	4 MB+ 300 MB+ 100 MB ne minimum partition size required for system installation for system operations.
8,000 MB + (1,024 MB × 1.5) + 1,02 = 10,960 MB The above mentioned partition size is t Ensure that the partition size is sufficient The following partition sizes are recomm Full installations Server Core installations	4 MB+ 300 MB+ 100 MB ne minimum partition size required for system installation for system operations. ended.
8,000 MB + (1,024 MB × 1.5) + 1,02 = 10,960 MB The above mentioned partition size is t Ensure that the partition size is sufficient The following partition sizes are recomm Full installations	4 MB+ 300 MB+ 100 MB ne minimum partition size required for system installation for system operations. ended. 32,768 MB (32 GB) or more
8,000 MB + (1,024 MB × 1.5) + 1,02 = 10,960 MB The above mentioned partition size is the Ensure that the partition sizes are recommended Full installations Server Core installations *1 GB = 1,024 MB Note • The above paging file size (dump file). The initial size enough to store dump file Make sure you set a sufficient	4 MB+ 300 MB+ 100 MB he minimum partition size required for system installation for system operations. ended. 32,768 MB (32 GB) or more 10,240 MB (10 GB) or more res are recommended for collecting debug information res of the Windows partition paging file must be large es. ficient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect
 8,000 MB + (1,024 MB × 1.5) + 1,02 = 10,960 MB The above mentioned partition size is the Ensure that the partition size is sufficient. The following partition sizes are recommended in the following partition size is sufficient. Full installations Server Core installations *1 GB = 1,024 MB Note The above paging file size is a sufficient of the size is a	4 MB+ 300 MB+ 100 MB he minimum partition size required for system installation for system operations. ended. 32,768 MB (32 GB) or more 10,240 MB (10 GB) or more res are recommended for collecting debug information re of the Windows partition paging file must be large es. ficient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect

	Tips	When creating a new partition, Windows OS assigns an initial boot partition of 100 MB. For example, when making a partition of 40,960 MB (40 GB), usable space will be 40,960 MB – 100 MB = 40,860 MB.
Hyper-V 2.		
EB		ollowing web site for information related to Hyper-V 2.0. vw.58support.nec.co.jp/global/download/w2k8r2/hyper-v/hyper-v-v2.html
	÷.	If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any
		more. The recovery password might be required at startup of the OS after the following:
		 Replacement of motherboard
EBOS		 Change of BIOS setting
		 Initialization of trusted platform module (TPM) * * Depending on your system, it may not be supported.
		Refer to the document about hardware.
	BitLocker	tall the operating system into a partition that is encrypted with BitLocker, delete the r-encrypted partition prior to reinstallation.
	that you	t releases software updates for BitLocker encryption. If using BitLocker, it is important read through the information provided by Microsoft. Also read through the checklist
		d by Microsoft. Is, visit <u>http://support.microsoft.com/kb/975496/en-us.</u>

Insta	lling S	ervice Pack
EB	OS	 If the OS installation media contains Service Pack 1, you do not need to apply the service pack again. You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself.
Licer	nse au	thentication
		License authentication is required depending on the installation of Windows. For details, see <i>5.7 License Authentication</i> .
EB	OS	 Activate within 30 days following installation. A virtual product key is used when installing in a virtual environment. It is not used when directly installing an operating system to a physical server.

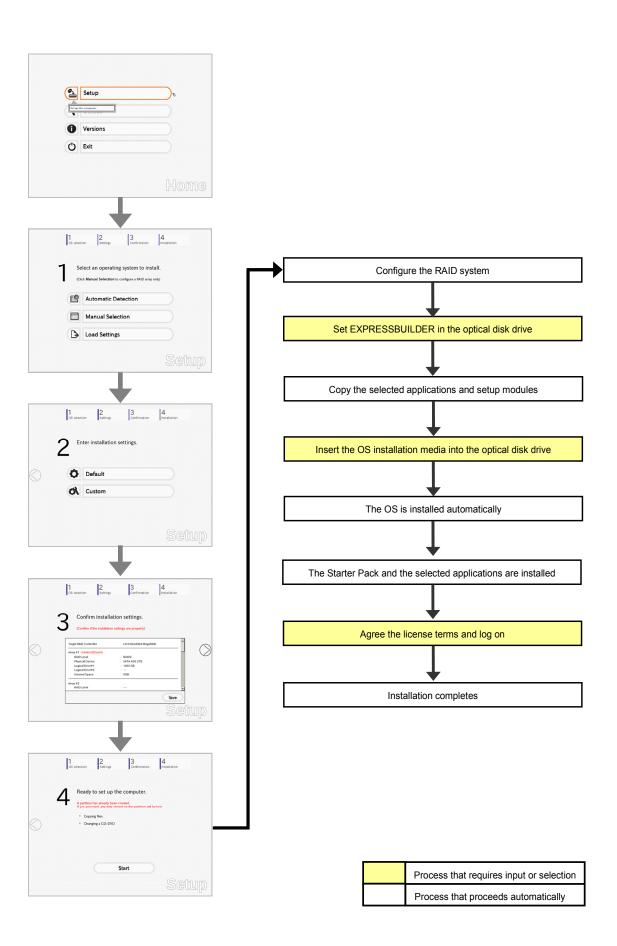
5.2 Setup with EXPRESSBUILDER

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

5.2.1 Setup flow



5.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2008 R2 DVD-ROM*)
- > Either of the following EXPRESSBUILDER
 - Internal Flash Memory
 - 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.)

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

Boot selection
OS installation default Tool menu (Defairection mode) Tool menu (Bedirection mode)
Automatic boot in 10 seconds

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 fo If you do not agree, click computer.	No to terminate this software and shut down the	
NEC Software License Ap	reement	<u> </u>
1. License		=
non-exclusive license to machine at any one time	after referred to as "NEC") grants you a personal an use the provided software (the "Software") only on o , and only in the country where you got the Softwar than those expressly granted you under this	one
2. Period		
Software. (2) You may terminate th at least one month prior (3) NEC may terminate t fail to comply with any t	as into effect on the day when you received the ie license granted hereunder by notifying us in writh to the desired termination date. In license granted you hereunder at any time If you erms and conditions of this Agreement. He license, you must destroy, uninstall or dispose of the license, you must destroy, uninstall or dispose of the license.	
	Yes No	

6. Click Setup.

Set up	Setup	₽
	Versions	
Ċ	Exit	

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

1 2 3 4 OS selection Settings Installation
Select an operating system to install. (Click Manual Selection to configure a RAID array only)
Automatic Detection
Manual Selection
Load Settings
Setup
 When not using a parameter file : Select Automatic Detection, and then go to Step 7. : Select Manual Selection, and then go to Step 8.
□ When <i>using</i> a parameter file : Select Load Settings , and then go to Step 9.
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 OS selection	ings 3 4 Installation
	erating system to install.
Automa	tic Detection
Select an operating syste automatically with an inst disc.	allation
Load Se	ettings
	Setup

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

	Insert the OS installati EXPRESSBUILDER will		u want to inst	
	EXPRESSIONED ER WII	detect the 05 ye		ID : B2014]
0				

	1 OS select	ion Settings	3 Confirmation	4 Installation	
			ing system to ins		
	¥ [9	Automatic [Detection		\bigcirc
		Manual Sel	ection		
	Þ	Load Settin	gs		
				Sef	

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

1 2 Selection Settings Con	nfirmation Installation
Select an operating syste	
Automatic Detectio	
Manual Selection	, R
You can select the target OS of the installation from the menu.	
	Sefun

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

	Select an operating system to install.	
	Windows Windows Server 200	08 R2 0
	○ vMware	
?	O RAID Configuration Only	

9-(3) Click 🖉 on			3 Confirmation		step 11.
1		· · ·	system to inst onfigure a RAID array (
	E Au	tomatic Def	tection		\bigcirc
✔ (E Ma	inual Select	ion		
	Ca Loa	ad Settings			
				Sei	tup

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

	1 2 3 CS selection Settings Confirmation	4 Installation
-	Select an operating system to instal (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).

Places	Name	~	Size Modified
🌺 Search	Cdrom1		05/08/2014
Recently Used			
🖸 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.

1 se	elect an operating system to in	stall.
(CI	ick Manual Selection to configure a RAID arra	iy only)
E	Automatic Detection	
	Manual Selection	
< B	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).

_		
Ø	Default	
10	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.

2 "	ter installation set	tings.	
0	Default		\supset
Ø	Custom		

12. Click Default.

	1 2 OS selection Settings	3 Confirmation	4 Installation
	2 Enter installation se	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**.

Basic Setti	ngs			
Operatir	ig system	: Windows Se	erver 2008 R2	
Edition		: Standard(F	ull Installation)	
Languag	e	: English	0	
Passwo	d Settings-			
Admin	histrator Pass	word	:	(Required)
Reent	er Administra	ator Password	:	(Required)



- 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.

ວ ⊧	nter installation	settings.	
<u> </u>	Default		
10	Custom		

13. Click Custom.

	1 OS selection	2 Settings	3 Confirmation	4 Installation
	2 Enter i	nstallation s	ettings.	
\bigcirc	De	fault		
	Specify all setti installation.	Istom		Ds -
				Setup

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

An operating system will be installe Uninstall all RAID controllers not to selected.			
Device Information			
RAID Controller		:	Detail
Number of Physical Drives		: 2	
Summary of RAID Array			
Array #1			×
RAIDO (1disk) Logical Drive1 (1117GB)			
RAID Configuration			
Skip Configuring RAID A	rrav		
			1 / 11 Page
Ne	ext		Cancel
146	axt		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**.

Vindows installation disc. Choose Install Windows upplications easily.	sing EXPRESSBUILDER to install be	oth the operating system and
Basic Settings		
Operating system	: Windows Server 200	08 R2
O Use Windows st	andard installer	
Install Windows	sing EXPRESSBUILDER	
Edition	: Standard(Full Installation)	0
Language	: English 0	
Time Zone	: (UTC-08:00) Pacific Time (US	6 & Canada)
		4 / 11 Page

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

Modify the settings as needed, and then click Next.

		system partition for V		
	s will be installed in em partition is 2TB.		k drive or logical dr	ive. The maximum partition size
		sting partition, show	n with a red frame,	will be deleted.
Current	Partitions (the area sho	own with a red frame wil	l be deleted) :	
	08/EAT22)	(TFS) Cata Partition		
		0.3GB) (0.1GB)	(1076GB)	
	ition Settings	,	()	
Fair	ition settings			
	Create a new partiti	ion		
	O Use all space			
	Type a partition	on size :	40 (GB	*1TB=1024GB
	.,,,		10GB / Recommende	d: 40GB / Maximum: 1116GB)
				5 / 11 Pag
				57 11 Fag
_				
	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.

Type Con Administ	ze the computer nputer Name w trator Password he four categorie	thin 15 charact	st six	characters in length and m e/lowercase/symbols).	ust contain characters fr
User I	nformation				
Co	omputer Name		:	Automatic Numbering	
				BD4394570815	(Required)
Us	er Name		:	Administrator	
Ac	Iministrator Pass	word	:		(Required)
Re	enter Administra	tor Password	:		(Required)
					6 / 11 Page
	Back	Next	1		Cancel

Note	Computer name and Administrator Password are required parameters.
	Enter Administrator Password that satisfies the following conditions:
	 Contains 6 or more characters
	- Contains characters from at least three of the following categories: numbers,
	uppercase letters (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 Custo	vork protocol. m Settings, click	k Advanced, if yo	u want to type an	IP address.
Network P	rotocols			
	andard Settings			
	ustom Settings			
Sta	indard Adapter - Ii	nternet Protocol (Pv4) ∵]	Advanced
				7 / 11 Pag

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.

Tips

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**.

 Ioin a workgroup 	
Workgroup Name : WORKGRO	UP
─ ○ Join a domain	
Domain Name :	
Account Name :	
Password :	
Reenter Password :	
	8 / 11 Page
	8 / 11 Page

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

Wizard Choose Windows components you	want to install.			Wizard Choose Windows components you was	nt to install.	
Server Roles Web Server (IIS) DHCP Server DHCP Server Windows Features SINAP Service Sinaple TCP/IP Services WINS Server	Print and Document Services Trils Services Hyper-V	Advanced	C.	Server Roles Veb Server (IIS) DHCP Server NIS Server Vindows Fastures Vindows Fastures WiNS Server	Print and Document Services Its Services Its Services Ityper-V	Advanced
		9 / 11 Page				9 / 11 Page
Back Ne	ext	Cancel		Back Next		Cancel

Full installations

Server Core installations

13-(8) Check the settings of applications.

Modify the settings as needed, and then click Next.

Available Applications		Selected Applications
Description	Add >> << Delet	NEC ESMPRO ServerAgentService Express Report Service Express Report Service(HTTPS) Universal RAID Utility Microsoft .NET Framework Version 4.0.0
Back Nex	•	10 / 11 Page

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.

Tips

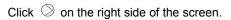
The settings are no Click Finish to clo	se this window	
onex i man to cit		
		11 / 11 Page
		11/11Fage
Back	Finish	Cancel

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

2		nter installatio	n settings.	
	0	Default		(
*	ζ β	Custom		

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

OS selection	ngs Confirmation	Installation
	Illation settings.	
イ	llation settings are specified)	
	nation settings are speemed)	
Skip configuring RAID array.		=
Operating system	: Windows Server 2008	R2
(Install Windows using EXPRE	SSBUILDER)	
Edition Language	: Standard(Full Installation) : English	on)
		Save
		Coden



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

	1 2 3 4 OS selection Settings Confirmation
	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
\searrow	Changing media
	Start
	Setu

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			
Inse	rt the EXPRESSBUILD		essage ID : J2002]
3			
	ОК	Cancel	

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

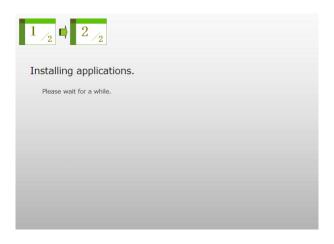
	Insert the OS installation disc. Click OK to proceed to the automatic setup.
	(30-90 minutes until completion) Do not use the mouse and keyboard during the setup until the
	prompt screen appears.
2	[Message ID : J2004]
	OK Cancel

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.

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



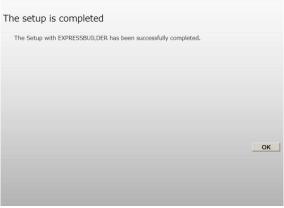
19. When the software license agreement window appears, select **I accept the license terms**, and then click **Start** (Full installations only).

Please read the license terms	
MICROSOFT SOFTWARE LICENSE TERMS	-
MICROSOFT WINDOWS SERVER 2008 R2 STAN	DARD
These license terms are an agreement between M where you live, one of its affiliates) and you. Pleas software named above, which includes the media terms also apply to any Microsoft	e read them. They apply to the
· updates,	
· supplements,	
· Internet-based services, and	
 support services 	-
I accept the license tems	

- 20. When the following message appears, press <Ctrl> + <Alt> + 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.

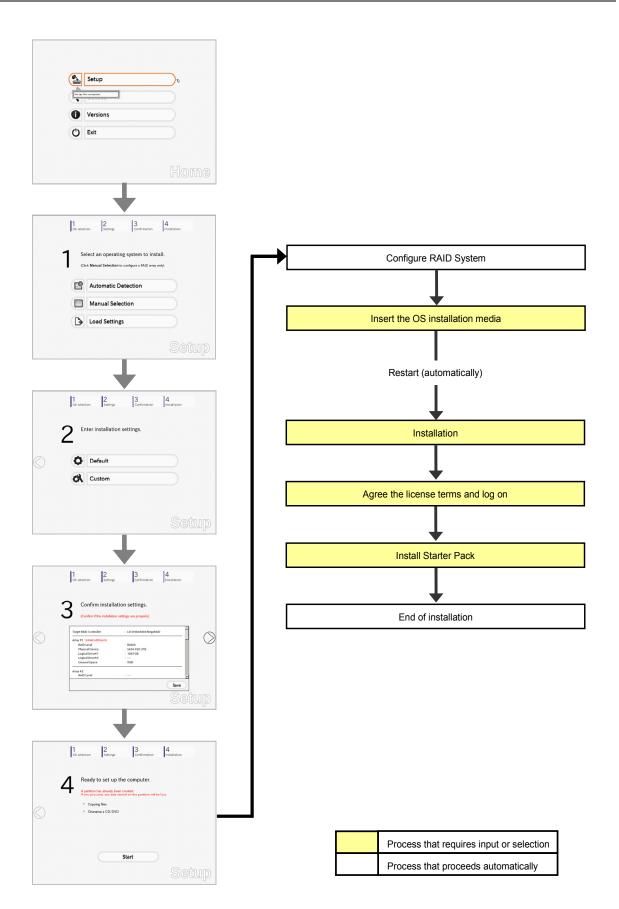
5.3 Setup with Windows Standard Installer

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	Setup with OS standard Installer may delete all data of the hard disk driv depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: – RAID settings			
	At re-installation, backing up user data, as needed, is recommended.			
Note	The creation of RAID10 by using the onboard RAID controller (LSI Embedded MegaRAID) is not supported. See <i>Chapter 2</i> (5. <i>RAID System Configuration</i>) in <i>Maintenance Guide</i> when creating RAID10.			
Tips	 Setup with OS Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory. For details on creating a parameter file, see <i>Chapter 1</i> (7. <i>Windows OS Parameter File</i>). 			

5.3.1 Setup flow



5.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2008 R2 DVD-ROM*)
- > Either of the following EXPRESSBUILDER
 - Internal Flash Memory
 - 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.)

5.3.3 Setup procedure

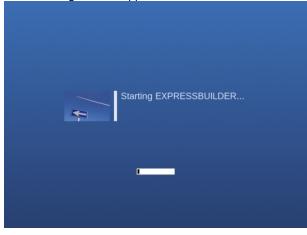
Note Read through the items in *Chapter 1* (5.1 *Before Starting Setup*) prior to installing Windows.

- 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).
- 3. Select **OS installation** *** default ***.

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

OS installation default Tool mean (Nermal mode) Tool mean (Nedirection mode)
Automatic boot in 10 seconds

The following window appears.



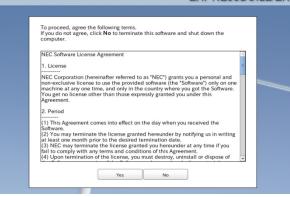
The server starts from EXPRESSBUILDER.



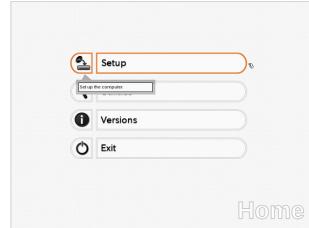
4. Select **English** on the language selection window, and then click **OK**. EXPRESSBUILDER



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



6. Click Setup.



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

	lect an operating system to install. k Manual Selection to configure a RAID array only)
E	Automatic Detection
	Manual Selection
Þ	Load Settings
	Setup
□ When <i>not us</i>	ing a parameter file : Select Automatic Detection, and then go to Step 8.
□ When <i>using</i> :	: Select Manual Selection , and then go to Step 9. 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

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

the saved parameter file.

8-(1) Click Automatic Detection.

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

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

 Insert the OS installation	on disc.		_
EXPRESSBUILDER will	detect the OS you wa	nt to install.	
	[]	Message ID : B2014]	

- 8-(3) Click

 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.

	1 2 3 OS selection Settings	ation Installation
-	Select an operating system to (Click Manual Selection to configure a RAI	
	Automatic Detection	
	Manual Selection	D.
	You can select the target OS of the installation from the menu.	
		Setup

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

	Select an operating system to install.
	VMware
3	O RAID Configuration Only

9-(3)			of the screer		step 11.
			ng system to ins to configure a RAID array		
	E	Automatic D	Detection		\bigcirc
	•	Manual Sele	ection		
	Þ	Load Setting	gs		
				Set	tup

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

1 OS select	ion Settings	3 Confirmation	4 Installation	
	elect an operating			
	Automatic De			
	Manual Selec	tion		
	Load Settings		₽ ₽	
			Setup)

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

	Name		~	Size M	odified	F
Search	🛅 cdrom1			05	/08/2014	
Recently Used						
root						
🖁 Desktop						
File System						
Documents						
Music						
Pictures						
Videos						Ξ
Downloads						
Add Remove						
			Cance		Open	

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 s	elect an operating system	to install.	
(C	lick Manual Selection to configure a F	RAID array only)	6
Ľ	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 OS selec	ion Settings	3 Confirmation	4 Installation	
2 [•]	nter installation settir	ngs.		
Ø	Default			
× 8	Custom			

11. Click Custom.

	1 2 3 OS selection Settings Con	firmation
	2 Enter installation settings	
C	Default	
	Custom	<i>w</i>
	Specify all settings for the 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 RAID0 (1disk) Logical Drive1 (1117GB)		
A		v
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.

Operating system	Windows Server 2008 R2
	ard installer
□ □ Install Windows using	EXPRESSIBILIT DER
Edition	: Standard(Server with a GUI)
Language	
Time Zone	: (UTC-08:00) Pacific Time (US & Canada)

When the following screen appears, click Finish.

Click Fir	ngs are now comp nish to close this v	vindow.	
			11 / 11 Page
	Back	Finish	Cancel

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

	1 OS select	ion Settings	3 Confirmation	4 Installation	
	2 "	iter installation :	settings.		
)	Ø	Default			Ć
	~ 8	Custom			

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

		3 Confirmation	4 Installation	
Confi	rm installation	n settings.		
3 (Check	if valid installation se	ttings are specified)		
Skip configuring	RAID array.			(
Operating syste (Use Windows s	m tandard installer)	: Windows Server 2	008 R2	
			Save	

Click \bigcirc on the right side of the screen.

13. The setup process starts.

art to conti	nue setup	D.	
1 OS selection	2 Settings	3 Confirmation	4 Installation
4 A partitio	on has already been o	created.	e lost
* Ch	anging a CD/DVD	n	
		Start	Setup
	1 OS selection Read A partitive Myou pr • Con • Chu	1 2 05 selection 2 4 Ready to set up the Aparton has already been in you proceed, any data stor • Configuring RAID syster • Changing a CD/DVD • Installing an OS	

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

	[Message ID : J20	1001

15. The server reboots automatically. Press <F3> key when the following message appears during POST.

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

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.



18. Click Install Now 🥹.

Windows Server 2008 R2 installation starts.



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



19. Select the destination, and then click OK.

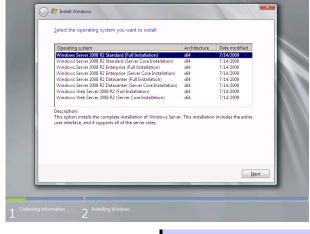
Internal Flash Memory:\015\win\winnt\drivers\01_storage\1_al_03

Tips

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

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

21. Select the edition of the Windows you are going to install and the installation method.



Tips

The screen display differs depending on an OS installation media you are using.

22. Read the content of the license agreement.

If you agree, select I accept the license terms and then click Next.



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

<image><image><image><image><image><image><image><image><image><image><image><image><image><image><image><image>

24. "Where do you want to install Windows?" window appears. If you are not using RAID Controller, go to Step 28.

When you select Load Driver, the following message appears.

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

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

 Specify the following locations, and then click **OK**.
 When using Internal Flash Memory, select the volume of INTER-FLASH. (When using EXPRESSBUILDER, select the optical disk drive.)

When using the N8103-176/177/178 RAID Controller: \015\win\winnt\drivers\01_storage\1_an_01 When using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive: \015\win\winnt\drivers\01_storage\1_al_03

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

N8103-176/177/178 RAID Controller: LSI MegaRAID SAS 9362-8i If using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive: LSI Embedded MegaRAID

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



28. 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 31.

Name		Total Size	Free Space Type	
Disk 0 Unall	ocated Space	74.5 GB	74.5 GB	
€n Befresh € Load Driver	X Delete	S Eormat	<mark>⊭</mark> Ne <u>w</u>	

29. Click New.

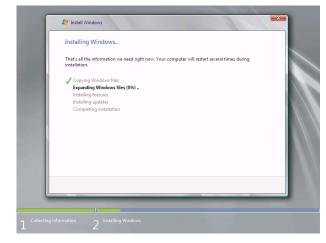
Enter the partition size into the size text box, and then click Apply.

Note	The partition size can only be set to 2TB (2,097,152 MB) or less.
Tips	When creating a new partition and installing the OS, a 100 MB boot partition is created. When the following window appears, click OK .
	OK Cancel

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

Name Disk 0 Partition 1: System Reserve Disk 0 Partition 2	td 100.0 MB	Free Space Type 86.0 MB System 39.9 GB Primary			
्रि Edresh X Delete @ Load Driver ये Estend	✓ Eormat	₩ Ngw			
J Installing Windows			yeat		

When the following message appears, Windows installation starts automatically.



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



33. Change your password, and then click the ジ button.



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.

34. Click OK.



35. Confirm the following according to the settings selected (displayed) in Step 21.

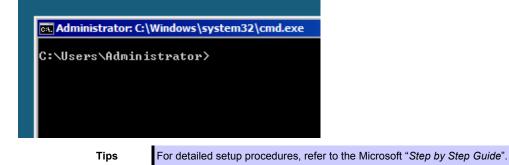
Full installations:

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

a	Provide Computer Information			Specifying computer information
Ő	Activate Windows	Product ID:	Not activated	
	P Set time zone	Time Zone:	(UTC-08:00) Pacific Time (US & Canada)	
	E Configure networking	Local Area Connection:	Not connected	
	Novide computer name and domain	Full Computer Name: Workgroup:	WIN-Q1SKALAVAF5 WORKGROUP	
0	Update This Server			Updating your Windows server
	& Enable automatic updating and feedback	Updates: Feedback:	Not configured Windows Error Reporting off Not participating in Customer Experience I	nprovement Program
	Ovvnload and install updates	Checked for Updates: Installed Updates:	Never Never	
Θ	Customize This Server			Customizing your server
	🚯 Add roles	Roles:	None	
	Add features	Features:	None	
	🙀 Enable Remote Desktop	Remote Desktop:	Disabled	
	Provide Windows Firewall	firewalk	Public: On	

Server Core installations:

The command prompt will appear. Set the user information.



- 36. Install Starter Pack by referring to Chapter 1 (5.4 Installing Starter Pack).

Start EXPRESSBUILDER by either of the following two ways:

- □ Internal Flash Memory : 5.4.1 Installing Starter Pack after POST
- □ EXPRESSBUILDER DVD : 5.4.3 Using EXPRESSBUILDER DVD(Option)
- 37. See *Chapter 1 (5.5 Checking installation of EXPRESSBUILDER)* to confirm that EXPRESSBUILDER has been installed in Windows.
- 38. Install drivers and specify detailed settings by referring to Chapter 1 (5.6 Setting Up Device Drivers).

- 39. Confirm if Windows is activated according to Chapter 1 (5.7 License Authentication).
- 40. Apply Service Pack as needed according to Chapter 1 (5.8 Applying Service Pack).
- 41. Install the applications as needed by referring to Chapter 1 (5.9 Installing the Applications).
- 42. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with Windows standard installer is now complete.

5.4 Installing Starter Pack

Starter Pack contains drivers customized for this server.

Be sure to apply Starter Pack before running the system.

Important	Also install Starter Pack in the following cases.
	 The motherboard of the server has been replaced
	(If a dialog box prompting system reboot is displayed, reboot the
	system according to the on-screen instructions, and then apply the Starter Pack.)
	 If the system was restored using a restore process
	 If a system has been restored using the backup tool
	• After installing build-in options, you may need installing Starter Pack.
	For detail, refer to Chapter 1(5.6 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.
	Contact your sales representative for details.
Tips	If the OS is installed by using EXPRESSBUILDER, Starter Pack is already applied.
	If the configuration is not changed, you do not need to apply Starter Pack again.

5.4.1 Installing Starter Pack after POST

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

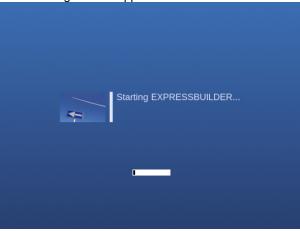
Note

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.

Boot selection	
OS installation default Tool menu (Normal mode) Tool menu (Redirection mode)	
Press (Yab) to edit options Automatic boot in 10 seconds	

The following window appears.



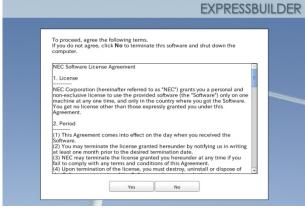
The server starts from EXPRESSBUILDER.



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.

Q Utilities	
Move to Utilities Menu.	•
C Exit	

7. Click Starter Pack Installation.



8. Read the contents, and then click Yes.

Selection	n
	Starter Pack will be installed on your Windows system. Proceed? [Message ID : P2000]
0	

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

1 Informat	
	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 Server Core mode.
	[System Drive]:\StartPKG\app_pkg.bat
	[Message ID : P1003]
	Close

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

- 10. Proceed application step according to the installation type. On Full installation, 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

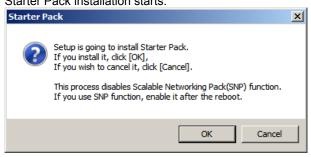
C:\StartPKG>**app_pkg.bat**

11. The following screen appears.

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

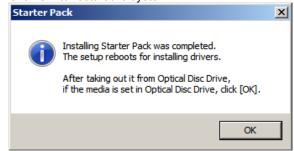
ter Pack is in preparation. Please wait for a while.
On Full Installation, this message below may appear at lower right of the screen.
There is no problem in system operation.
This message will disappear automatically.
"Device driver software was not successfully installed"

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)

13. Click OK to restart the system.



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

- 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.
- 3. Click Integrated Installation on the menu.

EXPRE	SSBL	JILDER	NEC
Instruction Manuals			
	0	Versions	
	¥	Integrated Installation	\supset
		Applications	
		Files For Setup	
	٩	Maintenance	
	₩.	Exit	Version 7.10-000.01(001)

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

EXPRE	ESSBUILDER			NEC
	Integrated Installation			
	Install the following software. - Install Starter Pack prior to installing th - Uninstall the application prior to reinsta		ion.	
	C Starter Pack			
	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)				
			In	stall

5. See Step 12 and the subsequent steps in *Chapter 1 (5.4.1 Installing Starter Pack after POST)* for further procedure.

5.4.3 Using EXPRESSBUILDER DVD(Option)

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

Full installations

- 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 (5.4.2 Installing Starter Pack using Windows Application)* for further procedure.

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:\015\win\winnt\bin
C:\Users\administrator>cd /d D:\015\win\winnt\bin
```

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

Pkgsetup.vbs

D:\015\win\winnt\bin>**pkgsetup.vbs**

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

Installation of Starter Pack is now complete.

5.5 Checking installation of EXPRESSBUILDER

Confirm that EXPRESSBUILDER has been installed in Windows.

(1) Full installations

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

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

2. Click "Exit" to quit the menu.

Check is now complete.

(2) Server Core Installations

 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.

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

(2) Optional LAN board

This server supports the following optional LAN boards.

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

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

Note

• 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), enter the following file, and run the file.

```
C:\Program Files(x86)\EXPRESSBUILDER\repository\015\win\winnt\drivers
\02_network\1_ag_01\install_ws2008r2.bat
```

If using EXPRESSBUILDER, run the following file.

```
\label{eq:link} $$ 015\win\winnt\drivers\02\_network\1\_ag_01\install\_ws2008r2.bat $$
```

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

• 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\015\win\winnt\drivers \02_network\1_as_02\install_ws2008r2.bat

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

\015\win\winnt\drivers\02_network\1_as_02\install_ws2008r2.bat

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

QLOGIC Driver Installation Completed!

Note

 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)

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

Tips

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 in the Network Adapter Properties dialog box.
- 5. Restart the system.

The link speed setting is now complete.

(2) 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\015\win\winnt\drivers
```

 $02_network_1_ah_02_pgdyavd_disable.vbs$

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

\015\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/LiveLink (BACS/QCS)

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, see Chapter 1 (5.6.3 Setting up team/LiveLink (BACS/QCS) - (4) Procedure for deleting team).
 Check the following points when deleting an adapter team.

- 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.
- When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
- 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 and LiveLink

The following team types are supported.

• Smart Load Balancing and Failover (without Standby Member)

All adapters that compose the team perform communication.

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

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

• Smart Load Balancing (Auto-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 combination of multiple adapters into a single channel to provide greater bandwidth.

Note

FEC and GEC modes require switch support.

(2) LiveLink

LiveLink is a function that detects communication route failures of adapters.

It periodically investigates the communication status of specified destinations (IP address).

Link packets are sent from each adapter within a team. If a response to the transmission of a link packet within the specified range is not detected, it is identified as a communication route failure and adapter communication is stopped.

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

Note	• When using Smart Load Balancing and Failover (without Standby Member),
	be sure to set up LiveLink at creation of a team.

• 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.

Tips

- When using Smart Load Balancing (Auto-Fallback Disable) (with Standby Member), setup for LiveLink is not essential.
 - LiveLink is not supported with FEC/GEC mode.

(3) Setting up team/LiveLink

Tips

To edit a team, right-click on the BACS or QCS 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.

Note

Note

3. Click Next.

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.
 - 802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP) is not supported.
 When FEC/GEC Generic Trunking is selected, the following message will appear. Confirm the settings on switching hub, and click OK.
 "Verify that the network switch connected to the team members is configured correctly for the team type."
 - When using Hyper-V, select Enable HyperV Mode.
- 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

The operation when Auto-Fallback Disable mode is unchecked is not supported.

(4) Click Next.

Note

Tips

Ν

```
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.
 - 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
 - The setting range of Probe maximum retries (link packet retry count) is 1 to 10 (times).
 - Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum.
 If a link down is detected, failover occurs immediately after the link goes down. It takes the time specified for Probe interval (seconds) to recover from the link going down.
 - When using Tagged VLAN, input the VLAN ID for Probe VLAN ID.
- 10. In the Target xx text box, enter the IP address of the alive monitoring server, and then click OK.

ote	• <i>Target xx</i> 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 precised.
	 is possible. If communication with the IP address specified in <i>Target xx</i> is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using <i>Probe Target</i>. 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.

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

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

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

17. Restart the system.

Team setup is now complete.

(4) Procedure for deleting team

You must delete teams from BACS or QCS. You cannot delete the team from the team adapter displayed in the Device Manager.

1. Start the teaming utility on the Control Panel window.

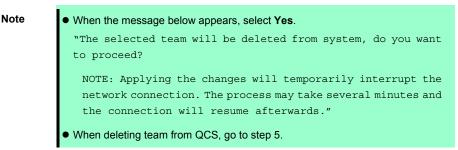
Note

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.

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\015\win\winnt\drivers \02_network\1_ah_02\addlvlanstats.vbs

If using EXPRESSBUILDER, run the following file. \015\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.

5.6.4 Setting up team (PROSet)

This section describes procedures for creating, deleting, and configuring a team by network adapter. The optional LAN board N8104-145 only is supported.

Note	 For how to delete an adapter team, see Chapter 1 (5.6.4 Setting up team (PROSet) - (3) Procedure for deleting team). Check the following points when deleting an adapter team.
	 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.
	 When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
	Do not configure a team with network adapter that is using iSCSI feature.
	• Be sure to set up LiveLink when creating a team in the following cases.
	 Smart Load Balancing and Failover (without Standby Member).
	 Smart Load Balancing (Auto-Fallback Disable) (with Standby Member) using more than two network adapters
	 When using Smart Load Balancing (Auto-Fallback Disable) (with Standby Member) using two network adapters, setup for LiveLink is not essential.
	• When configuring Created Adapter Fault Tolerance (AFT) or Adaptive Load Balancing (ALB) by using two network adapters, disable probes by referring to the following procedure.
	1. Open the Device Manager.
	 Expand Network adapters and double-click the team adapter. The properties of network adapter are displayed.
	3. Select the Advanced tab.
	 Select Probes, and then click Properties. The Probe is displayed.
	5. Clear Send probes , and then click OK .

Click **OK**, and then restart the system. 6.

(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.

(2) Setting up team

composes the team is up to four.

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

Note

- Click Finish. The properties of the selected team are displayed.
- 8. On the Settings tab, click Modify Team button.
- 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.

Tips	Adapter 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 Settings tab. If any error is displayed, read the message and change the
	setting of the switching hub.
	Also make sure that all adapters in team are linked up.

ImportantEven if the test result is correct, the message below may appear.Check the setting of the switching hub (L2) port. If no problem is found,
ignore the message."The switch is configured with aggregated ports, but the team
type does not support port aggregation. The switch is configured
with VLAN tagging, but the team has no VLANs.""Reconfigure the switch for link aggregation, or disable VLAN
tagging on the switch."

11. Restart the system.

(3) Procedure for deleting team

Note

You must delete teams by performing the following steps.

You cannot delete the team from the team adapter displayed in the Device Manager.

- 1. Open the Device Manager.
- 2. Expand **Network adapters** and double-click the team adapter. The properties of network adapter in the team are displayed.
- 3. Click the Setting tab. Click the Remove Team button.
- 4. Click Yes to the popup message.
- 5. Confirm that the TEAM: "Team name" adapter does not exist in the Network adapters tree.
- 6. Restart the system.

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\015\win\winnt\drivers
 \03_Graphic\1_aj_01\install.bat
 - When using EXPRESSBUILDER DVD: \015\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.
- 3. 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 (N8190-57A/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.

5.7 License Authentication

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

(1) Full installations

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

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

Control Panel Home	stem and Security • System		 Search C
Deuice Manager	View basic information abor	ut your computer	
	Windows edition		
Remote settings	Windows Server 2008 R2 St	andard	\bigcirc
Advanced system settings	Copyright © 2009 Microsoft	Corporation. Al rights reserved.	
	System	Intel(R) Xeon(R) CPU E5506 @ 2.13GHz 2.13 GHz	
	Installed memory (RAM):	4.00 GB	
	System type:	64-bit Operating System	
	Pen and Touch:	No Pen or Touch Input is available for this Display	
	Computer name, domain, and w	orkgroup settings	
	Computer name:	WIN-RO6HQKR5EQ4	Change settings
	Full computer name:	WIN-RO6HQKR5EQ4	
	Computer description:		
	Workgroup:	WORKGROUP	
	Windows activation		
	Windows is activated		ask for . J
	Product ID: x0000x-x00t-x00t	2000X-7000XX	genuine
See also			software
Action Center Windows Update			Learn more online.

2. If Windows is installed from Backup DVD-ROM, replace the product key. When the following window appears, click **Change product key**.

Ņ	System				_	. 0 >
C	🔾 🗢 🖳 🔹 Control Panel 🔹 Syst	em and Security 💌 System	•	Search Contro	ol Panel	-
6	Control Panel Home) Device Manager Remote settings) Advanced system settings	Vindows edition Windows server 2008 R2 Stat Copyright © 2009 Microsoft C	ndard	d.		_
		System Processor: Installed memory (RAM): System type: Pre: Pre: Pre: Pre: Pre: Pre: Pre: Pr	4.00 GB 64-bit Operating System No Pen or Touch Input is av	E5506 @ 2.13GHz allable for this Display		_
		Computer name, domain, and wor Computer name: Full computer name: Computer description: Workgroup:	kgroup settings WIN-RO6HQKRSEQ4 WIN-RO6HQKRSEQ4 WORKGROUP		Change settings	_
	See also Action Center Windows Update	Windows activation				-

3. Enter the product key found on the COA label, and then click **Next**.

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

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

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

Windows activation is now complete.

(2) Server Core installations

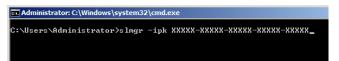
 At the command prompt, enter the following, and then press <Enter> key. slmgr -dli

Administrator: C:\Windows\system32	\cmd.exe
C:\Users\Administrator>slmgr	-dli

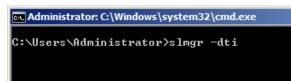
If the following message appears, Windows has already been activated on your system. You do not need to complete this procedure. Click **OK** to finish.

Windows Script Host	l in the second s	×
Name: Windows Server(R), ServerStandardCore edition Description: Windows Operating System - Windows Server(R), O channel Partial Product Key: xxxxx License Status: Licensed	EM_SLP	
	OK	

 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*



 Obtain an installation ID for Windows activation. At the command prompt, enter the following, and then press <Enter> key. slmgr -dti



- 4. Open %systemroot%\system32\sppui\phone.inf to confirm the telephone number of the license authentication customer service.
- 5. Call the above number, inform the representative of the installation ID which you obtained in step 3, and receive a confirmation ID.
- Type the confirmation ID you received in step 5. At the command prompt, enter the following, and then press <Enter> key. CID is the confirmation ID that you received from customer service. slmgr -atp CID



Windows activation is now complete.

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.
- 2. Insert the EXPRESSBUILDER DVD 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. Click Integrated Installation on the menu.



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.

EXPRESSBUILDER		NEC
Integrated Installati	ion	
Install the following software. - Install Starter Pack prior to inst - Uninstall the application prior t		ion.
C Starter Pack		
Applications		
NEC ESMPRO ServerAgentServ		Not installed
Express Report Service	Rev3.5E	Not installed
Express Report Service (HTTPS	,	Not installed
Microsoft .NET Framework Ver		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
4		
		Install

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.

Note

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

 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

See *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. See 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.

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. See *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 **OK**.

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

8. Close the Server Manager.

6. Setup for Solving Problems

We recommend installing the following features for solving the server failure quickly.

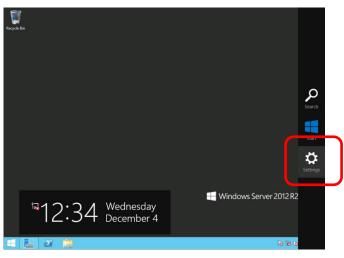
6.1 Specifying Memory Dump Settings (Debug Information)

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

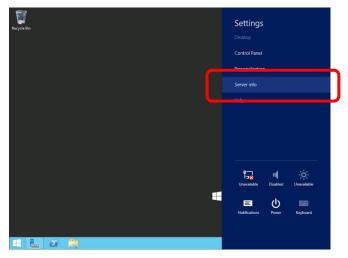
- Important
 Memory dumps must be collected by a serviceman. You only specify the settings for the memory dump.
 - Do not reset during dumping memory or restarting the server even if the message of virtual memory shortage appears.

6.1.1 For Windows Server 2012 R2 / Windows Server 2012

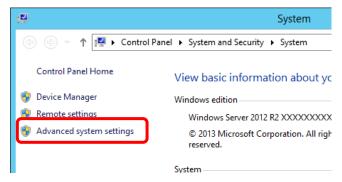
1. On Charms Bar, click Settings.



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	x
System startup	
Default operating system:	
Windows Server 2012 R2 V	
✓ Time to display list of operating systems:	;
Time to display recovery options when needed: 30 - seconds	
System failure	
✓ Write an event to the system log	
✓ Automatically restart	
Write debugging information	
Automatic memory dump	
Automatic memory dump	
Dump file:	
D: MEMORY.DMP	
✓ Overwrite any existing file	
OK Cancel	
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 appears.

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>e</u> ttings
Startup and Recovery
System startup, system failure, and debugging information
-,
Settings
Enviro <u>n</u> ment Variables
OK Cancel Apply

7. Click the Advanced tab on the Performance Options window. In Virtual memory, click Change.

Performance Options X
Visual Effects Advanced Lata Execution Prevention
Processor scheduling Choose how to allocate processor resources.
Adjust for best performance of:
<u>P</u> rograms
Virtual memory
A paging file is an area on the hard disk that Windows uses as 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.

V	/irtual Memory
Automatically mana	ge paging file size for all drives
Paging file size for eac	th drive
Drive [Volume Label]	
C:	System managed
Selected drive: Space available:	C: 38852 MB
<u>Custom size:</u>	00002110
Initial size (MB):	3559
	7118
Ma <u>x</u> imum size (MB):	
System managed s	size
No paging file	<u>S</u> et
Total paging file size fo	or all drives
Minimum allowed:	16 MB
Recommended:	3559 MB
Currently allocated:	4096 MB
· · · · · · · · · · · · · · · · · · ·	
	OK Cancel

9. In **Paging file size for each drive**, enter the size equal or larger than the recommended size for **Initial size**, and the value larger than **Initial size** for **Maximum size**, and then click **Set**.

Virtual Memory
Automatically manage paging file size for all drives Paging file size for each drive Drive [Volume Label] Paging File Size (MB)
C: System managed
Selected drive: C: Space available: 38852 MB
Custom size: Initial size (MB): 3559
Maximum size (MB): 7118
O No paging file
Total paging file size for all drives
Minimum allowed: 16 MB
Recommended: 3559 MB Currently allocated: 4096 MB
OK Cancel

Note the following when specifying a paging file size:

- The paging file is used to collect debug information (dump file). The boot volume must have a paging file of its initial size "(total size of physical memory) + 400 MB 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 size in Chapter 1 (3.1/4.1 Precautions for Setting Up or 5.1/6.1 Before Starting Setup) for recommended size.
- 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**. The Control Panel window appears.
- 2. On the Control Panel window, click System and Security.
 - Tips 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 appears.
- 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.

- For the Write debugging information, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
- Specify a drive that has a free space of at least "(total size of physical memory) + 300 MB".
- The size of the debug information (memory dump) changes when DIMM is added. Make sure that the free space of the drive to save the debug information is sufficient. If the mounted memory exceeds 2 GB, specify **Kernel memory dump**.
- 7. In Performance, click Settings.

The Performance Options dialog box appears.

- 8. Click the Advanced tab in the Performance Options dialog box.
- 9. In Virtual memory, click Change.
- 10. Clear the Automatically manage paging file size for all drives check box, and then click Custom size.
- 11. In Paging file size for each drive, specify as follows:

For the **Initial size** text box, type a size equal to or greater than the **Recommended** size shown in **Total paging file size for all drives**.

For the Maximum size box, type a size equal to or greater than the size specified in Initial size.

After specifying the above sizes, click Set.

Note the following when specifying a paging file size.

- The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the Windows partition paging file must be large enough to save dump files. Make sure to set a sufficient paging file size. If the paging file size is insufficient, correct debug information cannot be collected due to a shortage of virtual memory.
- For details about the recommended size in the Total paging file size for all drives area, see System partition size in Chapter 1 (3.1/4.1 Before Starting Setup or 5.1/6.1 Before Starting Setup).
- When DIMM is added, re-specify the paging file according to the increased memory size.
- 12. 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 when an application error occurs.

If an application error occurs, 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 Manage	er 🗖 🗖	x
	There are no running	g apps	
✓ More	<u>d</u> etails	<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 for, and then click **Create Dump File**.
- 5. A dump file for the process is created in the following folder:

```
C:\Users\user name\AppData\Local\Temp
```

(C) (C)] ≠ 1		Lib	oraries			-	D X
File	Home Share	View						^ 😮
	Preview pane	Medium icons	Small icons	*	∎ 1 [□]•	ltem check boxes		\$ =
Navigation	Details pane	Spr List	Content	Ŧ	Sort	Hidden items	H de selected	Options

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 for, and then click **Create Dump File**.
- A dump file for the process is created in the following folder: C:\Users\user name\AppData\Local\Temp

Tips

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 Microsoft web page: http://support.microsoft.com/kb/933741/en-us
- Run the downloaded file to start the installer.
 Follow the onscreen instructions to install Network Monitor.

Tips

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.

7.1 Creating Windows OS Parameter File

 Note
 Do not remove the EXPRESSBUILDER DVD from the drive while using the DVD.

 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 you acquired as an option or made by downloading an image from the websight 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	
i	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files For Setup	\supset
۲	Maintenance	
	Exit	Version 7.10-000.01(001)
		version 7.10-000.01(001)

4. Click Parameter file for Windows OS.

	NEC EXPRESSBUILDER	
EXPRE	ESSBUILDER	NEC
	Files for Setup	
0		
		ר
	Parameter file for Windows OS	J
B		

- 5. On the **OS selection** menu, select the OS to install or specify the parameter file.
 - $\hfill\square$ Not using a parameter file \hfill : 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 Settings 3 Confirmation
-	Select an operating system to install. (Choose Manual Selection when configuring a RAID array only)
	Manual Selection
	Choose the operating system 5
	Setun
	Serub

6-(2) From the Windows list, select OS, and then click OK.

	OS selection				
Selection					
3	Windows	Windows Sen			
	c	DK Car	ncel		
	0	Windows ORAID Config	Windows Windows Sen RAID Configuration Only	RAID Configuration Only	Windows Windows Server 2012 R2 RaID Configuration Only

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

 Create a parameter file for Windows
1 S selection 2 Settings 3 Confirmation
Select an operating system to install. (Choose Manual Selection when configuring a RAID array only)
Manual Selection
Load Settings
Settum
Seruh

To modify a parameter file, load the parameter file by using the following procedure.
 7-(1) Click Load Settings.

Create a parameter file for Windows	x
1 Selection Settings Confirmation	
Select an operating system to install. (Choose Manual Selection when configuring a RAID array only)	
Manual Selection	
Load Settings	
	0
Sei	dup

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

		Open				
Look in: 📗	Documents		•	+ 🗈 (* 🎫 🔻	
Name	^			Date mo	dified	
sa.tre				6/11/201	4 1:34 PM	
<	Ш					
< File <u>n</u> ame:	III				Open	

7-(3)	Click	🔘 on	the right s	ide of the		ightarrow Go to	step 11.
			1 OS selection	2 Settings	3 Confirmation		
		1			tem to install. configuring a RAID a	rray only)	
			Manua	l Selection			\bigcirc
		•	Load S	ettings			
						Set	UP

8. Specify the setup parameters by using either of the following methods: **Default**: Go to step 9

Custom:	Go to step 10.
8	Create a parameter file for Windows
	1 2 3 OS selection Settings Confirmation
2	Enter installation settings.
	Default
	Custom
	Setup

9. Click Default.

	Create a parameter file for Windows
	1 2 3 OS selection Settings Confirmation
	2 Enter installation settings.
\bigcirc	Default
	Custom
	Sefun
	Seiup

9-(1) Select an edition of the OS in the **Edition** list. Type the password, and then click **Finish**.

	Create a parameter file for Windows
	Wizard
	Enter the minimum settings to set up the computer. Click Custom if you want to use the Windows standard installer.
	Basic Settings
	Operating system : Windows Server 2012 R2
	Edition : Standard(Server with a GUI)
\geq	Language : English
5	Password Settings
	Administrator Password : (Required)
	Reenter Administrator Password : (Required)
	Finish Cancel
L	SIEIIUI

Note

Computer name and Administrator Password are required parameters.
Emter 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.

- 9-(2) Click on the right side of the screen.
- 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 para	meter file for Windows	
1 OS selection	2 3 Settings Confirmation	
Confirm installa	tion settings.	
	tion 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#1 Logical Drive#2		
	: 262143GB	
Logical Drive#2	: 262143GB :	~
Logical Drive#2 Unused Space	: 262143GB :	Save
Logical Drive#2 Unused Space	: 262143GB :	Save
Logical Drive#2 Unused Space	: 262143GB :	Save

10. Click Custom.

	Create a parameter file for Windows						
	1 OS selection Settings Confirmation						
	2 Enter installation settings.						
\bigcirc	Default						
	Custom						
	Setup						

10-(1) Use this menu to configure the RAID system as needed.

-	Wizard in operating system will be installed to the logical drive on the following RAID controller:
	Ininstall all RAID controllers not to be used for the OS installation if the incorrect RAID ontroller is selected.
	Device Information
	RAID Controller :
	Number of Physical Drives : 16
	Summary of RAID Array
\sim	Array #1
\sim	RAID1 (2disk) Logical Drive1 (262144GB)
1	RAID Configuration
	Skip Configuring RAID Array
	1 / 11 Page
	Next Cancel
)(망미)(()

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.

Creating new logical drives

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives in accordance with the wizard.

Important If you proceed with 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.

ti	e Windows installation	disc.	dows by using the installer contained in stall both the operating system and
	Basic Settings		
	Operating syste	m : Windows Server 2012	2 R2
		: standard installer ws using EXPRESSBUILDER : [Standard(Server with 4 : [English [<u>v</u>] : [(UTC-08:00) Pacific Tis	2
			4 / 11 Page
	Back	Next	Cancel

10-(3) Specify the settings of **Partition Settings** as needed, and then click **Next**.

8	Create a parameter file for Windows	×	•	Create a parameter file for Windows	×
	Wizard Specify the settings of the system partition for Windows. Windows will be installed into the first hard disk drive or logical drive.			Wizard Specify the settings of the system partition for Windows. Windows will be installed into the first hard disk drive or logical drive. The maximum partition size for the system partition is 217	
	Partition Settings Create a new partition O Use all space Type a partition size : 40(GB) *1TB-1024GB (Minimum-40GB / Recommended-40GB / Maximum:262143GB)			Partition Settings Create a new partition O Use all space (Minimum:40GB / Recommended:49GB / Maximum:282143GB) (Minimum:40GB / Recommended:49GB / Maximum:282143GB)	
	5 / 11 Page Bock Next Concel	0		5 / 11 Page Back 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. (Refer to *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 the user information, and then click Next.

Type Computer Name within 15 charact Administrator Password must be at lea from three of the four categories (numbe	st 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)

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.
Tips	 The default setting of Computer Name is assigned by automatic numbering. If you want to assign another Computer Name, clear Automatic Numbering, and type your 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.

10-(5) Specify the settings of Network Protocols as needed, and then click Next.

Create a parameter file for Windows	x
😮 Wizard	
Choose a network protocol. Choose Custom Settings, click Advanced, if you want to type an IP address.	
enouse eastern settings, ener naranees, in you name to type an an aboressi	
Network Protocols	
 Standard Settings 	
O Custom Settings	
Standard Adapter - Internet Protocol (IPv4) 🗸 Advanced	
7 / 11 Page	
Back Next Cancel	
5121111	
	P

Tips

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

10-(6) Specify the domain or workgroup as needed, and then click Next.

	Creat	e a parameter file for Windows	×
	11		
	Wizard		
	Join this computer to a domain or a	workgroup. a domain, and then enter parameters.	
	choose som a workgroup of som a	a domain, and then enter pardificters.	
	 Join a workgroup 		
	Workgroup Name	: WORKGROUP	
	 Join a domain 		
0	Domain Name	:	
$\langle \cdot \rangle$	Account Name	:	
-	Password	:	
	Reenter Password	:	
		8 / 11 Page	
	Back Next	Cancel	
			0
		OFIU	U.

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

10-(8) Specify the settings of applications as needed, and then click Next.

8	Create a parameter file for Windows	Create a parameter file for Windows
	Vizard Vizard Vizard See Description about each application.	Wizard Choose applications you want to install. See Description about each application.
	Available Applications Selected Applications Add >> Fact SMMD Service (Ffrequency) Add >> Macrosoft (Service (Ffrequency)) (Morosoft, Affrequency) Worosoft, Affrequency (Service (Ffrequency)) (Morosoft, Affrequency) Worosoft, Affrequency (Service (Ffrequency)) (Morosoft, Affrequency) Worosoft, Affrequency (Service (Ffrequency)) (Morosoft, Affrequency) Weice (Service (Ffrequency)) (Morosoft, Afffrequency) Service (Ffrequency) (Morosoft, Afffrequency) Service (Ffrequency) (Morosoft, Afffrequency) Service (Ffrequency) (Morosoft, Afffrequency)	Available Applications Selected Applications Ad >> Selected Applications Ad >> Selected Applications Ad >> <
	10 / 11 Page Bock Next Cancel	10 / 11 Page Book Next Cencel

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 (HTTPS)

Microsoft .NET Framework Version 4.0.0

Click Finish at the following window.

	14	10	10	
Wizard				
The settings an Click Finish to	e now complete. close this window.			
				11 / 11 Page
Bac	k Finish			Cancel
L				OGUU

10-(9) On the following screen, click \bigcirc on the right side of the screen.

B	Create a parameter file for Windows		
	1 OS selection Set	tings Confirmation	
	D Enter installation	settings.	
\bigcirc	Default		
	✓ 🕅 Custom		
		Se	tup

11. Check the settings, and then click Save.

]	Create a parameter file for Windows		
	1 OS selection	2 3 Settings Confirmat	ion
	Confirm installa	ation settings.	
	(Check if valid installa	tion settings are specified)	
\sim	Target RAID Controller	:	^
$\langle \rangle$	Array #1 : Initialized(Quick)		
<u> </u>	RAID Level	: RAID1	
	Physical Drive	: Slot #00	
		Slot #01	
	Logical Drive#1	: 262143GB	
	Logical Drive#2	:	
		: : 0GB	
	Logical Drive#2 Unused Space		
	Logical Drive#2		V
	Logical Drive#2 Unused Space		Save
	Logical Drive#2 Unused Space		Save
	Logical Drive#2 Unused Space		save Sefini

12. Click OK.

•	Create a parameter file for Windows				
		0S selection	2 Settings	3 Confirmation	
	1 Informatio	on			
		Saving the file is	s complete.	[Message ID : D1	000]
	0				
			ок		
					2 official

13. Click Yes to complete parameter file creation.

 Create a parameter file for Windows		
1 Stelection 2 Settings 3 Confirmation		
Selection		
Do you want to stop creating a parameter file for Windows OS?		
[Message ID : D2000]		
0		
Yes No		
Sefun		
Setel		

Parameter file creation is now complete.



NEC Express5800 Series Express5800/R120g-2E, T120g

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. Refer to the documentation that comes with software for details.

1.1 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)

For details about Universal RAID Utility, see Universal RAID Utility User's Guide in EXPRESSBUILDER.

If the system requirements for Universal RAID Utility described in Universal RAID Utility User's Guide differ from User's Guide of the server, follow User's Guide of the server.

1.5.1 Setup of Universal RAID Utility

Follow the procedure below to install Universal RAID Utility.

(1) Setup with EXPRESSBUILDER

You can easily install Universal RAID Utility by using EXPRESSBUILDER. Universal RAID Utility is installed along with Windows when using EXPRESSBUILDER. Select **Applications** on Autorun Menu.

(2) Setup using Universal RAID Utility installer

The Universal RAID Utility installer can be launched from Autorun Menu of EXPRESSBUILDER. Choose **Integrated Installation** and then follow the dialog box.

• Microsoft .NET Framework

Install "Microsoft .NET Framework Versions 2.0 to 3.5" from the following web site when using Universal RAID Utility on Windows Server 2012 and Windows 2012 R2.

http://msdn.microsoft.com/en-us/library/vstudio/hh506443.aspx

(The web site explains for Windows 8, but the modules can be used for Windows 2012 Server)

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 data and 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, and then insert EXPRESSBUILDER into the optical disk drive. Autorun Menu appears automatically.
- Click Applications from the menu and then click Product Info Collection Utility. The installation starts. Follow the instructions in the dialog boxes until installation is complete. This utility is usually installed to the C:\ezclct folder.

Tips

Log on to Windows with an account that has administrator privilege.The installation drive requires a free space of at least 2.5 GB.

1.7.2 Uninstallation

Uninstall the utility depending on the Windows installation type:

• Full installation :

Choose Add/Remove Programs from Control Panel and then click Product Info Collection Utility (Vx.x.x). Follow the instructions in the dialog boxes.

• Server Core installation:

Run the following command at the command prompt: Wmic product where name="Product Info Collection Utility" call uninstall

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 desktop or insert the EXPRESSBUILDER DVD into the optical disk drive.

Autorun Menu will appear automatically.

Click Applications from the menu, and then click Ezclct Viewer and install.
 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.

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 bundled 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

Terms	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. 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 s the destination of the dump by using the OS 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 motherboar 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 plural servers on network.		
NEC ESMPRO 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 confirm 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 th software when pressing <f4> key during POST. This software is the same as BM 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 saved settings in this file when setting Windows with EXPRESSBUILDER.		

Revision Record

Document Number	Date Issued	Description
10.115.01-102.01	April 2016	Newly created

[MEMO]

NEC Express Server

Express5800/R120g-2E, T120g Installation Guide (Windows)

April 2016

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