

Installation Guide (Windows)

NEC Express Server Express5800 Series

Express5800/R110i-1, T110i-S, T110i EXP335, 335A, 333, 333A, 334, 334A

Chapter 1 Installing Windows

Chapter 2 Installing Bundled Software

10.116.01-102.02 May 2018 © NEC Corporation 2018

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	The details of system BIOS settings, RAID Configuration Utility, and EXPRESSBUILDER
Chapter 3: Appendix	Error messages and Windows Event Logs
Other manuals The details of NEC ESMPRO, Un	iversal RAID Utility, and the other features

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Conventions Used in This Document

Signs and symbols for safety

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



Indicates there is a risk of death or serious personal injury

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

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

	Attention	This symbol indicates the presence of a hazard if the instruction is ignored. An image in the symbol illustrates the hazard type.	(Example)
\bigotimes	Prohibited Action	This symbol indicates prohibited actions. An image in the symbol illustrates a particular prohibited action.	(Example)
	Mandatory Action	This symbol indicates mandatory actions. An image in the symbol illustrates a mandatory action to avoid a particular hazard.	(Example) ecc (Disconnect a plug)

(Example in this guide)

Symbol to dr attention	raw	Description of a warning	Term indicating a degree of danger
		🛕 WA	RNING
<u>∧</u>	Use a g	 y the specified outlet rounded outlet with the sp se a fire or a power leak.	pecified voltage. Use of an improper power source

Notations used in the text

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

Important	Indicates critical items that must be followed when handling 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 document.

- DVD-ROM drive
- DVD Super MULTI drive
- DVD Dual drive

Hard disk drive

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

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

Removable media

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

- USB flash drive
- Flash FDD

Abbreviations of Operating Systems (Windows)

Windows Operating Systems are referred to as follows.

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

Notations in this document	Official names of Windows	
	Windows Server 2016 Standard	
Windows Server 2016	Windows Server 2016 Datacenter	
	Windows Server 2016 Essentials	
	Windows Server 2012 R2 Standard	
Windows Server 2012 R2	Windows Server 2012 R2 Datacenter	
	Windows Server 2012 R2 Foundation	
Windows Server 2012	Windows Server 2012 Standard	
	Windows Server 2012 Datacenter	
Windows Server 2008 R2	Windows Server 2008 R2 Standard	
	Windows Server 2008 R2 Enterprise	

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Keep this document for future reference.

Latest editions

This document was created based on the information available at the time of its creation. The screen images, messages and procedures are subject to change without notice. Substitute as appropriate when content has been modified.

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

http://www.nec.com/

Safety notes

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

1

NEC Express5800 Series Express5800/R110i-1, T110i-S, T110i

Installing Windows

This manual explains the setup procedure for a physical environment. Read through this chapter to set up the Windows correctly.

1. Before Starting Setup

Describes Service Packs and mass storage controllers which is supported by EXPRESSBUILDER.

Important When an optional graphics accelerator card is installed into the server, please check the bundled Startup Guide/User's Guide of a graphics accelerator card, and configure BIOS settings right.

2. Setting Up the Operating System

Describes the flow chart of setting up the operating system.

3. Setting Up Windows Server 2016

Describes how to set up Windows Server 2016.

4. Setting Up Windows Server 2012 R2

Describes how to set up Windows Server 2012 R2.

5. Setting Up Windows Server 2012

Describes how to set up Windows Server 2012.

6. Setting Up Windows Server 2008 R2

Describes how to set up Windows Server 2008 R2.

7. Setting Up for Solving Problems

Describes the features that must be set up in advance so that the server can recover from any trouble early and precisely.

8. Windows OS Parameter File

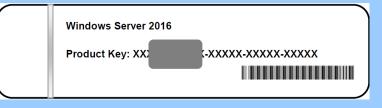
Describes how to create the parameter file.

1. Before Starting Setup

Important

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

The product key on the Certificate of Authenticity (COA) label is necessary information when authenticate the license. Scrape off with a coin or the like lightly the scratch that covers a part of the product key. When you scrape, be careful not to break the part that the product key is printed on.



The label cannot be reissued if it is lost or stained. It is recommended to write down the product key and keep it with other accessories.

Refer to the following for the installation of virtual OS.

If your virtualization infrastructure is Hyper-V:

Refer to the following web site for the Hyper-V setting and the installation procedure of the guest OS and so on.

http://www.58support.nec.co.jp/global/download/w2016/hyper-v/hyper-v-ws2016.html

If your virtualization infrastructure is not Hyper-V:

Refer to the manual provided by virtualization infrastructure vendor to prepare the virtual environment. Prepare a media or an ISO image of the OS to install.

- 1. Start the virtual machine from a media or an ISO image of the OS to install.
- 2. Follow the on-screen instruction to complete the OS installation.
- 3. Refer to the manual provided by virtualization infrastructure vendor to install the necessary services and applications.

1.1 Starting EXPRESSBUILDER

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

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

<u>Usage</u>

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

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

1.2 Supported Windows OS

You can install the following editions of Windows operating system.

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

: Setup with Windows Standard Installer

Windows OS		Boot mode		Installation option	
		UEFI	Legacy	EB	OS
	Standard	~	N/A	~	~
Windows Server 2016	Datacenter	~	N/A	~	~
	Essentials *1	~	N/A	~	~
	Standard	~	N/A	~	~
Windows Server 2012 R2	Datacenter	~	N/A	~	~
	Foundation *1	~	N/A	~	~
	Standard	~	N/A	~	~
Windows Server 2012	Datacenter	~	N/A	~	~
	Standard	N/A	~	N/A	✓ * ³
Windows Server 2008 R2 * ²	Enterprise	N/A	~	N/A	√ * ³

✓ : Supported

- *¹ Only Express5800/T110i-S, T110i
- *² Precautions for Windows Server 2008 R2 installation are as follows:
 - Use EXPRESSBUILDER DVD. Cannot use EXPRESSBUILDER on Internal Flash memory (F3 key function).
 - Use an internal optical disk drive on the server when installing. Cannot use a USB interface drive and remote media feature of EXPRESSSCOPE Engine 3.
 - Use a display, mouse, keyboard, and other devices connected directly to the server. Cannot use the remote KVM feature of EXPRESSSCOPE Engine 3.
- *³ Onboard RAID Controller (LSI Embedded MegaRAID) is not supported.

1.3 Supported Service Pack

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

OS installation media	No Service Pack installation	Service Pack 1 installation
Windows Server 2016	~	N/A
Windows Server 2012 R2	~	N/A
Windows Server 2012	\checkmark	N/A
Windows Server 2008 R2 with Service Pack 1 *	~	N/A
Windows Server 2008 R2	N/A	\checkmark

✓ : Supported

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

1.4 Mass Storage Controllers Supported by EXPRESSBUILDER

The table below lists the controllers for this server, supported by EXPRESSBUILDER. If an optional board not mentioned below is connected, set it up while referring to the instructions supplied with the board and *Chapter 1 (1.6 Using Mass Storage Controller Not Supported by EXPRESSBUILDER)*.

	Windows Server 2016	Windows Server 2012 R2	Windows Server 2012	Windows Server 2008 R2			
RAID Controllers supporting OS installation by EXPRESSBUILDER							
Onboard RAID Controller (LSI Embedded MegaRAID)	~	~	\checkmark	N/A			
N8103-176 RAID Controller (1GB, RAID 0/1)	✓	~	\checkmark	~			
N8103-177 RAID Controller (1GB, RAID 0/1/5/6)	~	~	~	~			
N8103-178 RAID Controller (2GB, RAID 0/1/5/6)	~	\checkmark	\checkmark	✓			
N8103-188 RAID Controller (RAID 0/1)	~	~	\checkmark	✓			
N8103-205 RAID Controller (RAID 0/1)	~	~	~	N/A			
N8103-206 RAID Controller (2GB, RAID 0/1)	~	~	~	N/A			
N8103-207 RAID Controller (2GB, RAID 0/1/5/6)	~	~	~	N/A			
N8103-208 RAID Controller (4GB, RAID 0/1/5/6)	~	~	~	N/A			
N8103-210 RAID Controller (2GB, RAID 0/1)	~	~	\checkmark	N/A			
N8103-211 RAID Controller (2GB, RAID 0/1/5/6)	~	~	~	N/A			
Other options	-			1			
N8103-142 SAS Controller	✓	~	\checkmark	~			
N8103-184 SAS Controller	✓	\checkmark	\checkmark	N/A			
N8103-179 RAID Controller (2GB, RAID 0/1/5/6) *	✓	~	~	✓			
N8190-159 Fibre Channel Controller(1ch) *	~	~	~	~			
N8190-160 Fibre Channel Controller(2ch) *	~	~	~	~			
N8190-161 Fibre Channel Controller(1ch) *	~	√	✓	N/A			
N8190-162 Fibre Channel Controller(2ch) *	~	\checkmark	\checkmark	N/A			

* Only Express5800/R110i-1

✓: Supported

1.5 LAN Boards Supported by EXPRESSBUILDER

	Windows Server 2016	Windows Server 2012 R2	Windows Server 2012	Windows Server 2008 R2
LAN board supporting OS inst	allation by EXPRE	SSBUILDER		
None	N/A	N/A	N/A	N/A
Other options				
N8104-149 10GBASE Adapter (SFP+/2ch)	\checkmark	\checkmark	\checkmark	✓
N8104-150 1000BASE-T Adapter	\checkmark	\checkmark	\checkmark	✓
N8104-151 Dual Port 1000BASE-T Adapter	\checkmark	\checkmark	\checkmark	✓
N8104-152 Quad Port 1000BASE-T Adapter	~	\checkmark	~	✓
N8104-157 Dual Port 10GBASE-T Adapter	~	\checkmark	~	N/A

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

✓: Supported

1.6 Using Mass Storage Controller Not Supported by EXPRESSBUILDER

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

You do not need to perform the following instructions usually.

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

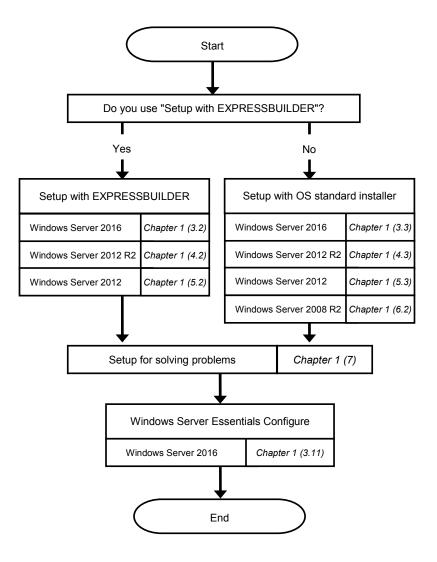
Note

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

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

2. Setting Up the Operating System

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



3. Setting Up Windows Server 2016

Set up Windows Server 2016.

3.1 Before Starting Setup

Read through the cautions explained here before starting setup.

EB OS : Setup with EXPRESSBUILDER

: Setup with Windows standard installer

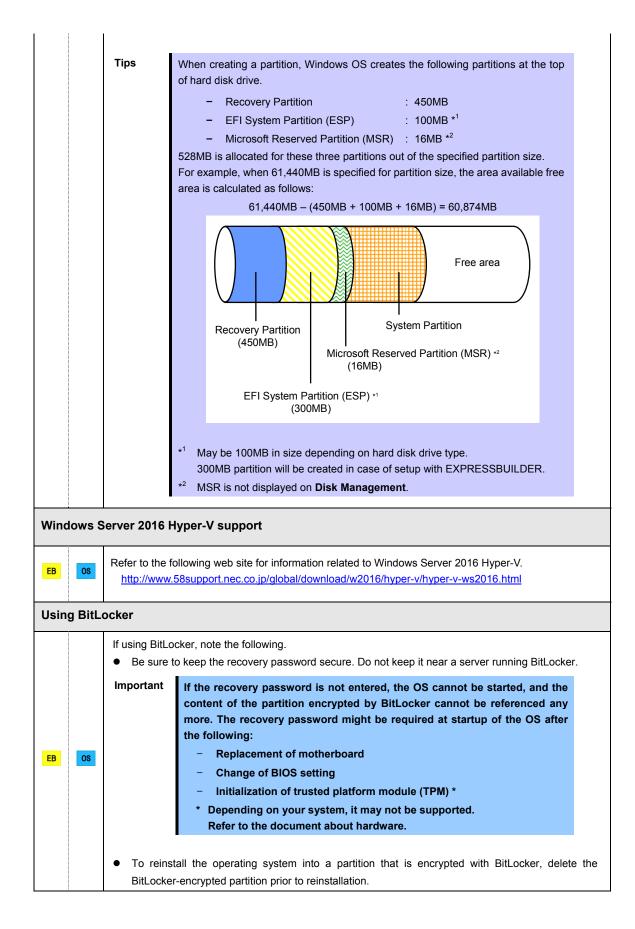
BIOS	S settir	ngs		
EB	08	Change details.	e Boot Mode to UEFI Mode. See Chapter 2 (1. System BIOS) in Maintenance Guide f	for
		Boot →	\rightarrow Boot Mode \rightarrow UEFI	
EB	OS		Enabled for X2APIC feature of processor. See Chapter 2 (1. System BIOS) in Maintenant for details.	ce
		Advand	ced $ ightarrow$ Processor Configuration $ ightarrow$ X2APIC $ ightarrow$ Enabled	
			stallation, open Boot Option Priorities in BIOS SETUP to make sure that the higher boot 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 system can boot from OS installation disc. 	
			Example of incorrect setting	
EB	08		 [Boot]–[Boot Option Priorities] – Boot Option #1 [Windows Boot Manager] – Boot Option #2 [UEFI: Optical Disk Drive] → The system cannot boot from OS installation disc. 	
		Note	 Before opening BIOS SETUP, be sure to insert OS installation disc into optical disk drive. If Windows Boot Manager is not displayed in Boot Option Priorities, you need no confirm the boot priority. 	ot to
EB	08		a graphics accelerator card of the option is equipped, please check the contents of bundle Guide/User's Guide of a graphics accelerator card, and configure BIOS settings right.	ed

Hard	ware o	configuration
		The following hardware configurations require special procedures.
EB	OS	Reinstalling to a mirrored volume When you install Windows Server 2016 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	OS	DAT, LTO, and similar 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 (3.10 Installation When Multiple Logical Drives Exist). * Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit.
EB	08	Reinstalling to hard disk drives that have been upgraded to dynamic disks If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be reinstalled to it with the existing partitions. Set up the operating system with the Windows standard installer.

OS Setup when mass memory is installed EB 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. Set the system partition size to a size sufficient to install the OS and paging file. 1. Specify another disk as the destination to store the debug information (required dump file size) by 2. referring to Chapter 1 (7. 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 + 400 MB or more in a drive other than the system drive. The paging file that exists in the first drive (in the order of drive letter C, D, E, ...) is used as the temporary memory dump location. Therefore, the size of the paging file must be "installed memory size + 400 MB" or more. Paging files in dynamic volumes are not used for dumping memory. The setting is applied after restarting the system. Example of correct setting C: No paging file exists D: Paging file whose size is "installed memory size + 400 MB" or more \rightarrow The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.

Example	of incorrect setting 1
-	jing file whose size is smaller than the installed memory size jing file whose size is "installed memory size + 400 MB" or more
colle	paging file in drive C is used for collecting memory dump, but ction may fail because the size of the paging file is smaller than the lled memory size.
Example	of incorrect setting 2
D: Pag	jing file whose size is "installed memory size × 0.5" jing file whose size is "installed memory size × 0.5" jing file whose size is 400 MB
MB",	total paging file size in all drives is "installed memory size + 400 but collection may fail because only the paging file in drive C is for collecting memory dump.
Example	of incorrect setting 3
(in d → Pagi	jing file whose size is "installed memory size + 400 MB" or more lynamic volume) ng files in a dynamic volume cannot be used for collecting memory p. Thus, collecting memory dump fails.
	e other than the system drive for "Dedicated Dump File".
ecify a driv tate the reg	
ecify a driv tate the reg	e other than the system drive for "Dedicated Dump File".
cify a driv ate the reg np File. When spec	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM
ecify a driv eate the reg mp File. When spec	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
ecify a driv eate the reg mp File. When spec Key: Name:	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the nam ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile
ecify a driv eate the reg mp File. When spec Key: Name: Type: Data:	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ
ecify a driv ate the reg np File. When spec Key: Name: Type: Data: Data:	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
ecify a driv ate the reg np File. When spec Key: Name: Type: Data: Ote the folk • Pay str	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys by the file name of the specifying Dedicated Dump File:
ecify a driv eate the reg mp File. When spec Key: Name: Type: Data: Data: lote the follo • Pay str • The se	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys by the specifying Dedicated Dump File: ict attention to edit the registry.
ecify a driv eate the reg mp File. When spec Key: Name: Type: Data: lote the follo • Pay str • The se • Specify	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the name ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys bowing when specifying Dedicated Dump File: ict attention to edit the registry. tting is applied after restarting the system.

Syst	em pai	ition size
EB	OS	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
		Desktop Experience
		Size required to install the OS = 15,200MB
		Paging file size (recommended) = installed memory size × 1.5
		Dump file size = installed memory size + 400MB
		Application size = as required by the application
		Server Core
		Size required to install the OS = 10,300MB
		Paging file size (recommended) = installed memory size × 1.5
		Dump file size = installed memory size + 400MB
		Application size = as required by the application
		For example, if the installed memory size is 2GB(2,048MB), application size is 100MB, and Server with
		a GUI is selected, the partition size is calculated as follows:
		15,200MB + (2,048MB × 1.5) + 2,048MB + 400MB + 100MB
		= 20,820 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.
		Desktop Experience
		 Standard, Datacenter : 32,768MB (32GB) or more
		 Essentials 61,440MB (60GB) or more
		Server Core : 32,768MB (32GB) or more
		*1 GB = 1,024 MB
		• The above paging file sizes are recommended for collecting debug information
		(dump file). The initial size of the Windows partition paging file must be large
		enough to store dump files.
		Make sure 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.
		If the partition size for installing Windows is smaller than the recommended size, expand the partition
		size or add another hard disk drive.



Supp	oort foi	r NIC teaming in Windows Server 2016
EB	OS	The NIC teaming feature, which used to be provided by network interface card (NIC) vendors, is built into Windows Server 2016. In Windows Server 2016, this feature is also called "load balancing and failover (LBFO)". See 3.8 Setup of Windows Server 2016 NIC Teaming (LBFO) and specify any required settings.
Devi	ce Gua	rd feature and Credential Guard feature
EB	OS	Device Guard feature and Credential Guard feature are not available for Express Server.

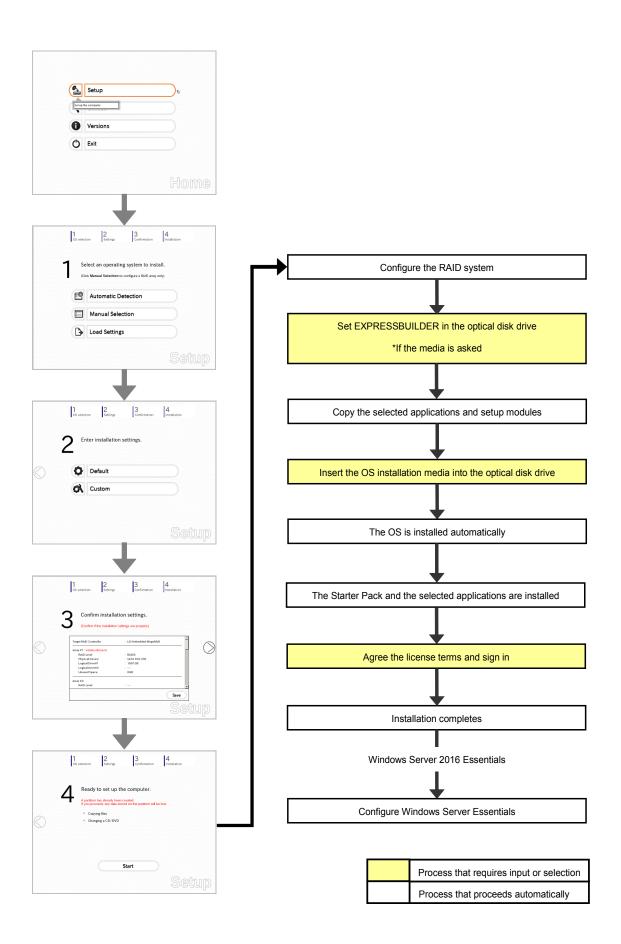
3.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

Important	 Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: RAID settings Partition Settings Backing up user data, as needed, is recommended. Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup.
Note	 Device Guard: virtualization-based security is disabled by using this setup. Do not enable Device Guard feature because this feature is not available for this server. When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. 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 (8. 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 2016 DVD-ROM)
- > Either of the following EXPRESSBUILDER
 - Internal Flash Memory
 - EXPRESSBUILDER DVD (Option)
- > Prepare if needed:
 - Removable media for Windows OS parameter file

3.2.3 Setup procedure

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

Note

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

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



The following window appears.



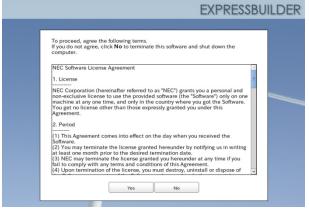
The server starts from EXPRESSBUILDER.



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



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



6. Click Setup.

Setup	Setup	 \$
	Versions	
٢	Exit	

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

			vstem to in: igure a RAID arra	
e	Automa	atic Dete	ction	
	Manua	l Selectio	'n	
B	Load Se	ettings		

□ When not using a parameter file	e :	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.

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 disc be detected by using the following procedure.
 - 8-(1) Click Automatic Detection.

1 OS selection	∠ Settings	3 Confirmation	Installation
		g system to insl configure a RAID array	
			ony
	ating system with an installation		₽
disc.		tion	
	ad Settings	5	
			Setu

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

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

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

1 :	elect an operating sys	em to install.	
(0	Click Manual Selection to configu	re a RAID array only)	
¥ [9	Automatic Detect	ion) (
	Manual Selection		
B	Load Settings		

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

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

9-(2) From the Windows list, select Windows Server 2016, and then click OK.

Choice	
8	Select an operating system to install. Windows Windows Server 2016 VMware RAID Configuration Only
	OK Cancel

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

1	Select an operating system to ins	
E	Automatic Detection	
</th <th>Manual Selection</th> <th></th>	Manual Selection	

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

1 2 2 3 Selection	onfirmation
Select an operating syste (Click Manual Selection to configure	
Automatic Detection	on
Manual Selection	
Load Settings	₽ ₽
Load installation settings.	Setup

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

	Choosing a File	
Den mnt us	sr_connect	
Places	Name V Size	Modified
Nearch Search	🛅 cdrom1	05/08/2014
Recently Used		
o root		
📓 Desktop		
File System		
Documents		
Music		
Pictures		
Videos		
Downloads		
Add Remove		
Add Remove		
	Cancel	Open
		opon

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.

Se	elect an operating system to	install.	
(CI	ck Manual Selection to configure a RAID	array only)	
e	Automatic Detection		\bigcirc
	Manual Selection		
✓ 🕒	Load Settings		

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

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

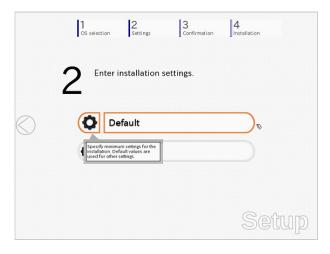
2) En	ter installation setti	ngs.	
(Ø	Default		(
~	¢X	Custom		

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.

Enter install	ition settings.	
-		
Default		
Custom		

12. Click Default.



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

C	Specify the minimum settings to set up the computer. Click Custom if you want to use the Windows standard ins	taller.
	Basic Settings Operating system : Windows Server 2016	
	Edition : Standard (Desktop Exp Language : English : Password Settings Administrator Password : Reenter Administrator Password :	
	Finish	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.

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 s	ettings.		
۲ Ø	Default			(
	Custom			

13. Click Custom.

	1 2 3 OS selection Settings Confirm	mation Installation
	2 Enter installation settings.	
\bigcirc	Default	
	Custom	₽
		Setup

- 13-(1) Use this menu to configure the RAID system and logical drives as needed.
 - When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. See *Chapter 2 (5. RAID System Configuration)* in *"Maintenance Guide"* when creating RAID10.

When creating new logical drives

Note

(1) With the **Skip Configuring RAID Array** check box cleared, click **Next**. Set up the logical drives according to the wizard.

In operating system will be installed to Jninstall all RAID controllers not to be elected.		
Device Information		
RAID Controller	: MegaRAID 945N-8i	Detail
Number of Physical Drives	: 2	
Summary of RAID Array		27
Array #1 RAIDO (2disk(s)) Logical Drive1 (278GB)		
RAID Configuration		
Skip Configuring RAID Array		
		1 / 11 Page
Next		Cancel

Important When a new logical drive is created, the existing RAID system is destructed and the contents of hard disk drive will be erased.

(2) Setting the disk array configuration and the RAID level.

Physical Drive	Array#1	Array#2	Hot Spare	Unused
SATA #00*139.2GB	۲	0	0	0
SATA #01*139.2GB	۲	0	0	0
RAID Level	RAID1 \$			

(3) Specify the size of the logical drive by the GB unit as needed.

Logical drive #1 will be assigned a Up to two logical drives per RAID			
Array #1		Array #2	
Unused Space:	0 GB	Unused Space:	GB
(Logical Drive#1) : System D	rive	(Logical Drive#3):	
Maximum Size	139 GB	O Maximum Size	GB
O Size	GB	O Size	GB
(Logical Drive#2):		(Logical Drive#4):	
O Remaining Space	GB	O Remaining Space	GB
O Size	GB	O Size	GB
* For drive capacity measuremen			3 / 11 Page
Back	ext	1	Cancel

Note

The RAID level and the logical drive size varies depending on hardware configuration.

When skipping the creation of new logical drives

(1) Select the Skip Configuring RAID Array check box, and then click Next.

- Device Information		
RAID Controller	:	 Detail
Number of Physical Drives	: 2	
Summary of RAID Array		
Array #1 RAID0 (1disk) Logical Drive1 (1117GB)		=
A		~
RAID Configuration	ray	
		1 / 11 Page

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

Choose Install Windows using EXPRESSBUILDER, and then click Next.

in C	stallation disc.	o install Windows by using the installer on the Windows UILDER to install both the operating system and
	Basic Settings	
	Operating system : W	Windows Server 2016
1	Use Windows standard installer Install Windows using EXPRESSBUILD	LDER
	Edition : Standard ((Desktop Experience)
	Language : English	
l	Time Zone : (UTC-08:0	:00) Pacific Time (US & Canada)
		4 / 11 Page
	Back Next	Cancel

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

Modify the settings as needed, and then click Next.

	1
Wizard Specify the settings of the system partition for Windows.	-
Windows will be installed into the first hard disk drive or logical drive. All data currently on an existing partition, shown with a red frame, will be deleted.	
Current Partitions (the area shown with a red frame will be deleted) : 10 06(FAT32) 10 07(NTF5) Data Partition Free Space (0.3G8) (Total-40.3G8) (0.1G8) (1076G8)	
Partition Settings	
○ Use all space	
5 / 11 Page	
Back Next Cancel	
Important • Partition size	
	ger than the minimum required for installing <i>Chapter 1 (3.1 Before Starting Setup).</i> e is 2,097,152 MB.
The entire contents of the de	stination hard disk drive will be deleted.

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

f the four categories (numbers/upp		
User Information		
Computer Name	: 🗹 Automatic Numbering	
	BD4394570815	(Required)
User Name	: Administrator	
Administrator Password	:	(Required)
Reenter Administrator Password	:	(Required)
		6 / 11 Page
Back Next]	6 / 11 Page Cancel

numbers,
nction. If rom "Auto", n, •••••• is assword
assw010
r

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

Choose Custom Settings, click Advanced, i	
Network Protocols	
 Standard Settings 	
O Custom Settings	
Standard Adapter - Internet Protoc	col (IPv4) 10 Advanced
L	
	7/11/0-0
	7 / 11 Page
Back Next	7 / 11 Page
Back Next	
Back Next	
Back Next	

- Tips
 The order of entry in Custom settings may differ from the numbering of LAN ports.
 If you select the Windows Server 2016 Essentials, select Standard Settings.
 Note
 Even when an optional network board is connected, Custom settings only shows standard network boards.
 After finishing Setup with EXPRESSBUILDER, specify the optional network settings again.
- 13-(6) Specify the workgroup settings.

Tips

If you want to use the domain, change the settings after installing Windows. Check the settings, modify them as needed, and then click **Next**.

loin this computer to a domain or Choose Join a workgroup or Join	a workgroup. n a domain, and then enter parameters.
 Join a workgroup Workgroup Name 	: WORKGROUP
_ ○ Join a domain	
Domain Name	:
Account Name	:
Password	:
Reenter Password	:
	8 / 11 P

Windows Server 2016 Essentials installs OS with workgroup setting. Configure the domain after OS is installed.

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

Modify the settings as needed, and then click Next.

Vitand Choose Windows components you want to install.	Wiscard Choose Windows components you want to initial.
Server Roles Web Server (IIS) Print and Document Services DHCP Server Pris Server Windows Features Windows Features SIMP Service Advenced Windows Features Advenced Windows Features Pris Service	Server Roles Wondows Features Sin Shuffy Server Sin Shuffy Server Sin Shuffy Server Sin Shuffy Service Sin Shuffy Service Sin Shuffy Server Sin Shuffy Serve
Back Not Cancel	Back Next Cancel
Desktop Experience	Server Core

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

Choose applications you want to ins See Description about each applic				
Available Applications			Selected Applications	_
Description	Add << De	>> Express Re Express Re Universal I Microsoft	RO ServerAgentService ipport Service (HTTPS) ADD Utility NET Framework Version 3.5. ssUpdate Agent	1
Back Nex	t		10 / 11 Page Cancel	e

On the following screen, click Finish.

The settings are now complete.	
Click Finish to close this window.	
	11 / 11 Page
	11 / 11 Fage
Back Finish	Cancel

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

2	
Default	
✓ 🕅 Custom	

14. Check the parameter settings.

If you want to save the settings, click Save.

Confirm insta	allation settings.	
1		
(Confirm if the install	ation settings are properly)	
Target RAID Controller	: LSI Embedded MegaRA	uD 👘
Array #1 : Initialized(Quick)		(
RAID Level	: RAIDO	
Physical Device	: SATA #00 2TB	_
Logical Drive#1	: 1861GB	
Logical Drive#2	:	
Unused Space	: OGB	
Array #2		
RAID Level	2	
· · ·		
		Save

Click \bigcirc on the right side of the screen.

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

	1 2 3 4 OS selection Settings Confirmation Installation
	Ready to set up the computer.
"	A partition has already been created. If you proceed, any data stored on the partition will be lost.
	* Configuring RAID system
\bigcirc	* Copying files
\bigcirc	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						
	Insert the EXPR	RESSBUILDER o	disc to the dri	ve. [Message I	D : J2002]	
3						
		ок	Cancel			_

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

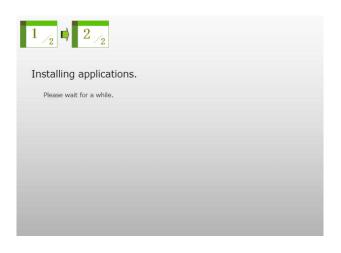
Insert the OS installation disc. Click OK to proceed to the automatic setup.
(30-90 minutes until completion) Do not use the mouse and keyboard during the setup until the
prompt screen appears.
[Message ID : J2004]

Windows Server 2016 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.

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



19. Set according to operating system selected in step 12-(1) or 13-(2).

Desktop Experience

Read the terms of License Agreement. Click Accept.

License term	าร				
IMPORTANT NOTICE (fo	llowed by LICENSE TERM				
your installation, upgrade, purposes, the information (Security, Basic, Enhanced, antimalware and diagnost	and user experience, and may be associated with y and Full), and uses the "E ic and usage information	omatically collects this info I the quality and security o your organization. Window Enhanced" setting by defai technologies; (ii) understa use and performance of th	f Microsoft products s Server 2016 has fou ult. This level include: and device quality, an	and services. Consi ur (4) information of s information requi id application usag	istent with these collection settings ired to: (i) run our
	rmation, see (aka.ms/win	e level of information colle serverdata) and the Windo	ws Server Privacy Sta		
MICROSOFT SOFTWARE	LICENSE TERMS				
MICROSOFT WINDOWS	SERVER 2016 XXXXXX	xxxx			
		rosoft Corporation (or bas re, which includes the medi			

Press <Ctrl> + <Alt> + <Delete> keys to unlock.



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



Click OK.

The setup is completed The Setup with EXPRESSBUILDER has been successfully completed. OK

Note

	ntials	-		×
Configure Windo	ws Server Essentials	N	VIN-XXXXX	XXXX
Before you begin Configure Windows Serv Date and time settings Company information Coreate network admin ac Update settings Results	By default, Windows Server Essentials is set up as the first configuration may take up to 30 minutes and your server n process. Click Next to continue.	ay restart more than on	ce during ti	
	< Previous		Canc	
ick Yes . onfirm Canceling	Wizard sure you want to cancel this wizar	× rd?		

Server Core

Press <Ctrl> + <Alt> + <Delete> keys to unlock.

C:\Windows\system32\LogonUl.exe	– – ×
Press Ctrl-Alt-Del to unlock	
Type the password you have specified in step 12-(1) or 13-(4).	
C:\Windows\system32\LogonUl.exe Enter credentials for Administrator or hit ESC to switch users/sign-in n	ethods
Password : _	
Click OK .	
The setup is complete.	
The setup with EXPRESSBUILDER is complete.	
ОК	

- 20. See *Chapter 1 (3.5 Checking installation of EXPRESSBUILDER)* to confirm that EXPRESSBUILDER has been installed in Windows.
- 21. Follow the instructions described in Chapter 1 (3.6 Setting Up Device Drivers) to set up the device drivers.
- 22. Confirm if Windows is activated according to Chapter 1 (3.7 License Authentication).
- 23. See Chapter 1 (3.8 Setup of Windows Server 2016 NIC Teaming (LBFO)) to setup a team as needed.
- 24. Run the setup by following the instructions described in Chapter 1 (7. Setup for Solving Problems).
- 25. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.
- 26. If you select the Windows Server 2016 Essentials, set several settings according to *Chapter 1 (3.11 Configure Windows Server Essentials)*.

Setup with EXPRESSBUILDER is now complete.

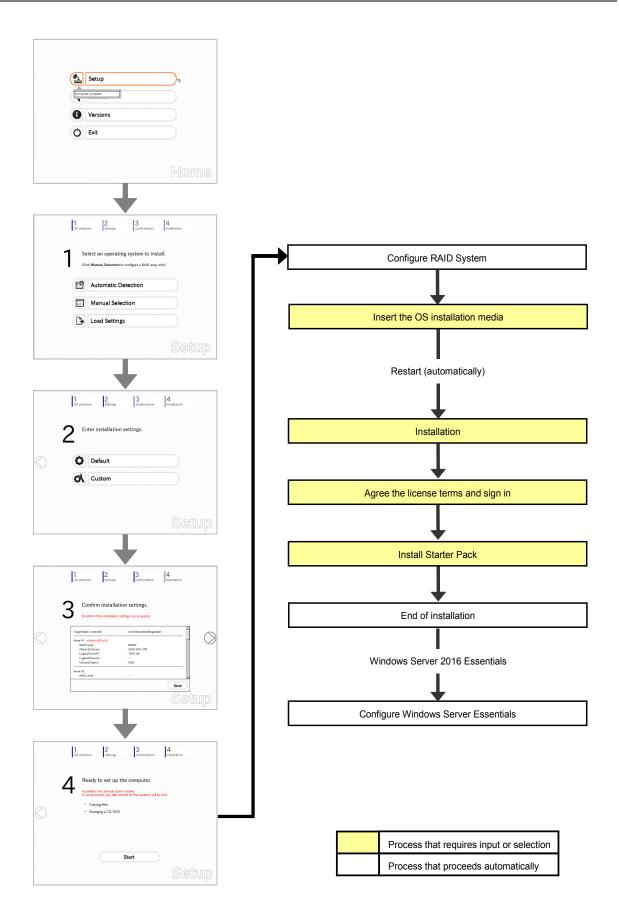
3.3 Setup with Windows Standard Installer

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

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

Important	Setup with Windows standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: – RAID settings When re-installing an OS, backing up user data, as needed, is recommended.
Note	When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. See <i>Chapter 2 (5. 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 (8. 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 2016 DVD-ROM)
- Either of the following EXPRESSBUILDER
 - Internal Flash Memory
 - EXPRESSBUILDER DVD (Option)
- > Prepare if needed:

Removable media for Windows OS parameter file

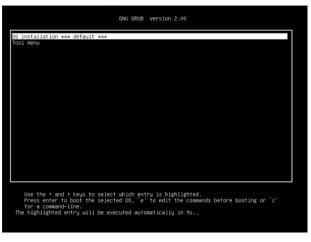
3.3.3 Setup procedure

Note

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

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

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



The following window appears.



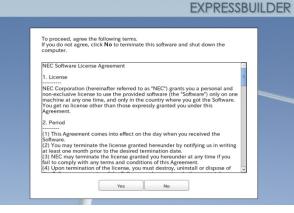
The server starts from EXPRESSBUILDER.



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



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



6. Click Setup.

Set up	Setup	₽
0	Versions	
٢	Exit	

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

1 OS sel	ection Settings Confirm	ation Installation		
	Select an operating system to (Click Manual Selection to configure a RAI			
	Automatic Detection			
	Manual Selection			
B	Load Settings			
		Setup		
□ When <i>not us</i>	ing a parameter file	: Select Automatic Detec : Select Manual Selection	tion , and then go to Step 8. n, and then go to Step 9.	
□ When <i>using</i>	a parameter file	: Select Load Settings, a	nd then go to Step 10.	
		nen setting up again, paramete e saved parameter file.	r input via the wizard can be omitted by l	oading

- 8. When *not using* a parameter file, let the OS on the installation disc be detected 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	<i>b</i>
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 install EXPRESSBUILDER w	ation disc. vill detect the OS you	want to install.	
			[Message ID : B2	2014]
0				

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

	elect an operating system to install.
(C	ck Manual Selection to configure a RAID array only)
• 🕑	Automatic Detection
	Manual Selection
B	Load Settings

- 9. When not using a parameter file, select an OS by using the following procedure.
 - 9-(1) Click Manual Selection.
 - 9-(2) From the Windows list, select Windows Server 2016, and then click OK.

Choice	election Settings Confirmation Installation
0	Select an operating system to install. Windows Windows Server 2016 VMware RAID Configuration Only
	OK Cancel

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

1		elect an operating			
	(Cli	ck Manual Selection to o	onfigure a RAID array:	only)	
	e	Automatic De	tection		
*		Manual Select	tion		
	₿	Load Settings			

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

1 OS select	ion 2 3 Settings Confirmation	4 Installation
	lect an operating system to in sk Manual Selection to configure a RAID arr	
e	Automatic Detection	
	Manual Selection	
Þ	Load Settings	D.
Load in	stallation settings.	Setup

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

Places	Name	✓ Siz	e Modified
🙀 Search	Cdrom1		05/08/2014
Recently Used			
i root			
🕼 Desktop			
Eile System			
Documents			
Music			
Pictures			
Videos			
Downloads			
Add Remove			
Add			

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	
(C	ick Manual Selection to configure a RAID a	array 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. \rightarrow Go to step 11-(1).

	2 "	ter installation settings	
C	Ø	Default	(
	~ 01	Custom	

11. Click Custom.

	1 2 3 OS selection Settings Cor	nfirmation
	2 Enter installation settings	
\bigcirc	Default	
	Custom Specify all settings for the installation.	 v
		Setup

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

When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. See *Chapter 2 (5. RAID System Configuration)* in *"Maintenance Guide"* when creating RAID10.

When creating new logical drives

(1) With the **Skip Configuring RAID Array** check box cleared, click **Next**. Set up the logical drives according to the wizard.

		al drive on the following he OS installation if the	incorrect RAID controller is
selected.			
Device Information			
RAID Controller	3	MegaRAID 945N-8i	Detail
Number of Physical Drives	:	2	
Summary of RAID Array			
Array #1 RAID0 (2disk(s)) Logical Drive1 (278GB)			
RAID Configuration			
Skip Configuring RAID A	urray		
			1 / 11 Page

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

(2) Setting the disk array configuration and the RAID level.

Physical Drive	Array#1	Array#2	Hot Spare	Unused
SATA #00*139.2GB	۲	0	0	0
SATA #01*139.2GB	۲	0	0	0

(3) Specify the size of the logical drive by the GB unit as needed.

	Wizard Specify the size of the logical drive. Logical drive #1 will be assigned as the drive for th Up to two logical drives per RAID array can be cre		-
C	Array #1 Unused Space: 0 GB (Logical Drive#1): System Drive @ Maximum Size 139 GB Size GB (Logical Drive#2): 0 Remaining Space GB 0 Size GB Size GB Size GB Size GB	(Logical Drive#3): Maximum Size Size (Logical Drive#4): Remaining Space Size	GB GB GB Page
	Back Next	Cancel	C IIII
Not	te The RAID level a	nd the logical drive size	e varies depending on hardware configuration



Device Information RAID Controller : Number of Physical Drives : 2	Detail
	Detail
Number of Physical Drives : 2	Detail
Summary of RAID Array	
Array #1 RAIDO (1disk) Logical Drive1 (1117GB)	E
RAID Configuration	
Skip Configuring RAID Array	
	1 / 11 Page

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

Choose Use Windows standard installer, and then click Next.

Basic Settings	: Windows Server 2016	
Operating system Use Windows 		
 Ose windows 	standard installer	
	using EXPRESSBUILDER	
Edition	: Standard (Desktop Experience)	0
Language Time Zone	: English 2	(abada)
Time Zone	: [[[010-08.00]) Facilie Time (03 a c	anaua) (*)
		4 / 11 Pag

On the following screen, click Finish.

Wizard		
The settings are now comple Click Finish to close this wi	ite. ndow.	
		11 / 11 Page
Back	Finish	Cancel

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

	1 2 OS selection Settings	3 Confirmation	4 Installation	
	2 Enter installation s	settings.		
\bigcirc	Default			Ć
	🗸 🕅 Custom			
	Custom			
			Set	up:

12. Check the parameter settings. If you want to save the settings, click Save. Click \bigcirc on the right side of the screen.

	llation settings.	
	nation settings.	
(Confirm if the installa	ition settings are properly)	
Target RAID Controller	: LSI Embedded MegaRAID	*
Array #1 : Initialized(Quick)		
RAID Level	: RAID0	
Physical Device	: SATA #00 2TB	
Logical Drive#1	: 1861GB	
Logical Drive#2		
Unused Space	: OGB	
Array #2		
RAID Level	:	
		Save

13. The setup process starts.

Click Start to continue setup.

	1 2 3 Confirmation Installation
	Ready to set up the computer.
2	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 instal	llation disc for	[Message II) : J2000 1	-
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 "Windows is loading files..." appears.
- 17. In case of using backup DVD, choose the OS language if the following screen appears.







19. Click Install now.

📽 Windows Setup	
Windows Server* 2016	Ĵ
Install now	
<u>R</u> epair your computer	
© 2016 Microsoft Corporation. All rights reserved.	

- If the following message appears, go to step 20.
- If not, go to step 22.

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

20. Click **Browse** and select the destination, and then click **OK**. Specify the displayed drive as **INTER-FLASH**.

\016\win\winnt\drivers\01_storage\1_al_09

Tips

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

LSI Embedded MegaRAID

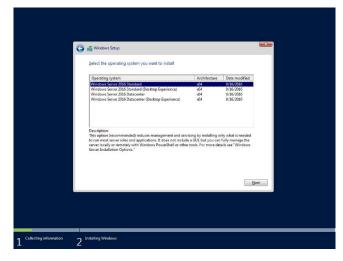
22. Enter the product key and click Next.

🕞 💰 Windows Setup		
Activate Windows		
you need to enter a valid Windo	alling Windows on this PC (or you're installing a differe ws product key. Your product key should be in the con a digital copy of Windows or on a label inside the box	firmation
The product key looks like this:)	00000-300000-300000-300000-300000	
If you're reinstalling Windows, so automatically activated later.	elect I don't have a product key. Your copy of Window	will be
1		
Privacy statement] don't have a product key	Next

Tips

If you are using Backup DVD-ROM, this screen does not appear.

23. Select the operating system you want to install and click Next.



Tips

The options listed on the screen vary depending on the installation media you are using.

Read the message of the screen, and then choose an installation option.

- Windows Server 2016 Standard or Windows Server 2016 Datacenter
 → Described as "Server Core" by this manual
- Windows Server 2016 Standard (Desktop Experience) or Windows
 Server 2016 Datacenter (Desktop Experience)
 - → Described as "Desktop Experience" by this manual
- Windows Server 2016 Essentials
 → This edition is not appeared on the screen. Go to Step 24.

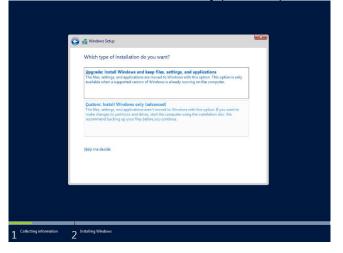
24. Read the license terms carefully.

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

	Windows Setup	
	Applicable notices and license terms	
	IMPORTANT NOTICE (followed by LICENSE TERMS) Diagnostic and Usage Information. Microsoft automatically collects this information over the internet, and uses it to help inprove your installation, upgrade, and user experience, and the quality and security of Microsoft products and services. Considered with these purposes, the information may be associated with your organization. Windows Server 2016 has four (4) information collection settings (5) ecurity, Basic Enhanced, and Full), and uses the "Enhanced" setting by default. This level includes information required tc (0) run our antimalware and diagnostis and usage information technologies; (ii) understand device quality, and application usage and compatibility and (iiii) dentify quality issues in the use and performance of the operating system and applications.	×
	Accept the leaves formed	Next
Collecting information	Intilling Windows	

25. Select the installation type.

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



26. "Where do you want to install Windows?" window appears.If the driver was loaded in step 20 and 21, or if a RAID controller is not used, go to step 30.

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							

27. Click **Browse** and select the destination, and then click **OK**. Specify the displayed drive as **INTER-FLASH**.

```
Onboard RAID Controller (LSI Embedded MegaRAID): \016\win\winnt\drivers\01_storage\1_al_09
```

RAID Controller (N8103-205/206/207/208/210/211): \016\win\winnt\drivers\01_storage\1_ay_03

Tips	• When using an EXPRESSBUILDER DVD, replace the DVD media in step 24 and select the optical disk drive.
	 When using an onboard RAID controller, the driver can be loaded from the EXPRESSBUILDER DVD by using USB optical disk drive.
	 If INTER-FLASH label is not displayed, reboot the server, and then perform setup again from step 15.

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

```
Onboard RAID Controller (LSI Embedded MegaRAID): LSI Embedded MegaRAIDRAID Controller (N8103-205): MegaRAID 944N-8iRAID Controller (N8103-206/207): MegaRAID 946N-8i 2GRAID Controller (N8103-208): MegaRAID 946N-8i 4G
```

29. If you inserted the EXPRESSBUILDER DVD in Step 26, remove it, and then insert the OS installation media.

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

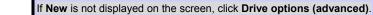
 Image: Windows cannot be installed to this disk. (Show details)

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

30. Click New.

If a partition has already been created, go to step 32.

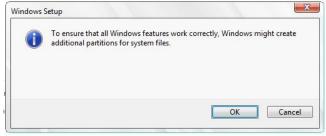
Name	want to install Wi	Total size 186.3 G8	Free space Type 186.3 GB	
4g Setens ⊕ Load Greet	X Delete 2 Egtend	⊘ Eormat	* New	
				Ment



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

Chive's Unablecented Space 272.6 GB 272.6 G		Name		Total si			
() Losd diver 2 (gend Size 100477 + M6 Apply Cented	S	Drive 0 Unall	ocated Space	371.6 (38 371.6 G	3	
() Losd diver 2 (gend Size 100477 + M6 Apply Cented							
() Losd diver 2 (gend Size 100477 + M6 Apply Cented							
(B) Lead driver Cancel Size (200477 - MB Apply) Cancel							
() Load driver 2 Ligens Size 100477 + M6 Apply Cencel	f.,	Refresh	XDelete	Format	- New		
Net							
Next							
						Next	

When the following window appears, click OK.



- **Tips** When creating a partition, the OS creates the following partitions at top of the hard disk drive.
 - Recovery Partition
 - EFI System Partition (ESP)
 - Microsoft Reserved Partition (MSR)
- 32. Select the partition created in step 31, and then click Format.

Important	When the following screen appears, read the contents and click [OK]. Carefully select the partition to be formatted because data in the partition will be erased.
	Windows Setup This partition might contain important files or applications from your computer manufacturer. If you format this partition, any data stored on it will be lost.
	OK Cancel

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

	🚱 🔬 Windows Setup				×								
	Where do you	want to install Win	dows?										
	Name		Total 300.0	0 MB 273.0	pace Type DMB Recovery								
	⊘ Drive 0 Par ⊘ Drive 0 Par	rtition 3	100.0	0 MB 128.0	0 MB System 0 MB MSR (Reserved)								
	So Drive 0 Par	rtition 4	278.4	1 GB 278.4	4 G8 Primary								
	€⊉ Befresh @ Load driver	N Delete		∦ N	lgw								
					Net								
					Tiox								
ng information	2 Installing Windows												
		Tips		The	number	of	partitions	displayed	differs	depending	on	the	har

configuration.

When the following message appears, Windows installation starts automatically.

	🔏 Windows Setup	
	Installing Windows	
	Status	
	Copying Witholm (He (Ph)) Cocking The rank/ for multidian the second second second second second heading up defails Friedding up	
$1^{\text{Collecting information}}$	2 ^{Instelling Windows}	

The server will automatically restart after Windows Server 2016 is installed. You will proceed to Windows setup after restart. 34. Set according to operating system selected in Step 23.

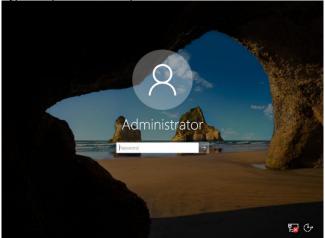
Desktop Experience

Тур	Type a password and click Finish .					
	Customize	settings				
	Type a password for the	built-in administrator account that you can use to sign i	n to this computer.			
	User name	Administrator				
	Password					
	Reenter password					
	¢.			Finish		

Press <Ctrl> + <Alt> + <Delete> to unlock.

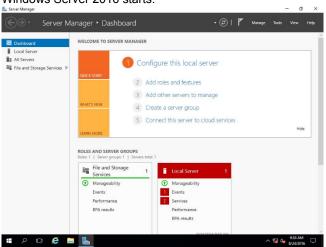


Type the password and press <Enter>.

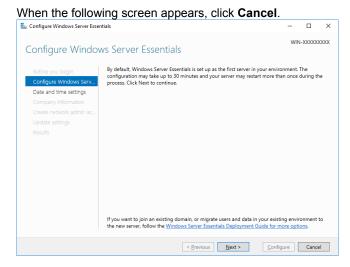


<Windows Server 2016 Standard or Windows Server 2016 Datacenter>

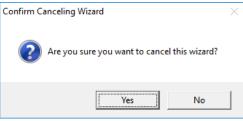
Windows Server 2016 starts.



<Windows Server 2016 Essentials>



Click Yes.



Note

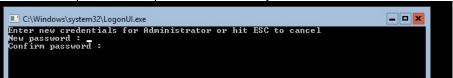
This screen will be displayed each time the OS is restarted. Cancel "Configure Windows Server Essentials" until setup is finished.

Server Core

It is necessary to change the password. Select OK and press the <Enter> key.



Enter the new password and press the <Enter> key.



Select OK and press the <Enter> key after the password change message is displayed.

C:\Windows\system32\LogonUl.exe	X
Administrator Your password has been changed.	
0k	

Windows Server 2016 starts.

Administrator: C:\Windows\system32\cmd.exe

C . \	lleane	Administrator>
C	USELS	Administratory

Tips

Refer to the following website for more details. **Configure and Manage Server Core Installations** <u>http://technet.microsoft.com/us-en/library/jj574091.aspx</u>

35. 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)
- 36. See *Chapter 1* (3.5 *Checking installation of EXPRESSBUILDER*) to confirm that EXPRESSBUILDER has been installed in Windows.
- 37. Install drivers and specify detailed settings by referring to Chapter 1 (3.6 Setting Up Device Drivers).
- 38. Confirm if Windows is activated according to Chapter 1 (3.7 License Authentication).
- 39. See Chapter 1 (3.8 Setup of Windows Server 2016 NIC Teaming (LBFO)) to setup a team as needed.
- 40. Install the applications as needed by referring to Chapter 1 (3.9 Installing the Applications).
- 41. Execute setup by following the instructions described in Chapter 1 (7. Setup for Solving Problems).
- If you select the Windows Server 2016 Essentials, set several settings according to Chapter 1 (3.11 Configure Windows Server Essentials).

Setup with Windows standard installer is now complete.

3.4 Installing Starter Pack

Starter Pack contains drivers customized for this server.

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

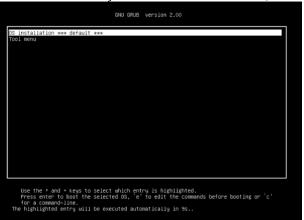
Important	Also install Starter Pack in the following cases.
	 The motherboard of the server has been replaced
	(If a dialog box prompting you to reboot the system is displayed,
	reboot the system according to the on-screen instructions, and then apply the Starter Pack.)
	 If the system was restored using 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, see Chapter 1(3.6 Setting Up Device Drivers).
	Tor detail, see onapter 1(5.6 Setting op Device Drivers).
	Tor uctuit, see onapter 1(0.0 detting op Device Drivers).
Note	"Device Guard: virtualization-based security" is disabled by using this setup. Do not
Note	
Note	"Device Guard: virtualization-based security" is disabled by using this setup. Do not
Note Tips	"Device Guard: virtualization-based security" is disabled by using this setup. Do not
	"Device Guard: virtualization-based security" is disabled by using this setup. Do not enable Device Guard feature because this feature is not available for this server.

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.



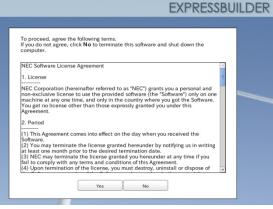
The server starts from EXPRESSBUILDER.



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



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



6. Click Utilities.

Setup	
Y Utilities	₽
Move to Utilities Menu.	
C Exit	

7. Click Starter Pack Installation.



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

Selection	
	Starter Pack will be installed on your Windows system. Proceed? [Message ID : P2000]
0	
	Yes No

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

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

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

- 10. On Server Core, install Starter Pack following steps as below. On Desktop Experience, 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

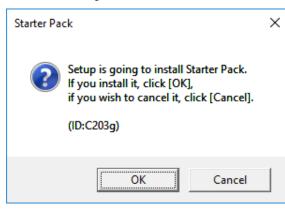
C:\StartPKG>**app_pkg.bat**

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.

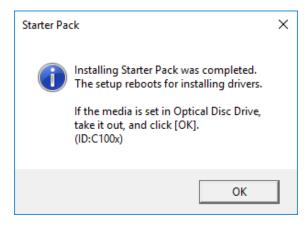
12. Read the message, and then click OK.



Wait until the installation of the Starter Pack is complete. (About 2 to 5 minutes)

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

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

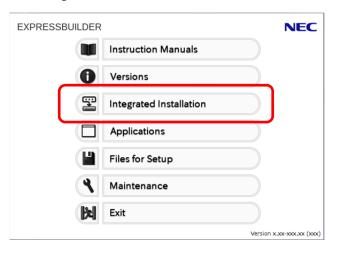


Installation of Starter Pack is now complete.

3.4.2 Installing Starter Pack using Windows Application

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

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



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

NEC EXPRESSBUILDER							
EXPRE	ESSBUILDER		NEC				
	Integrated Installation						
	Install the following software. – Install Starter Pack prior to installing the app – Uninstall the application prior to reinstalling t						
	Starter Pack						
(m	NEC ESMPRO ServerAgentService	Rev1.3	Not installed				
Ě.	Express Report Service	Rev3.5E	Not installed				
	Express Report Service (HTTPS)	Rev3.7	Not installed				
	Universal RAID Utility	Rev4.10	Not installed				
	Product Info Collection Utility	Rev2.9.3	Not installed				
	Ezclot Viewer	Rev2.3.1	Not installed				
	NEC ExpressUpdate Agent	Rev3.18	Not installed				
9			Install				
			Install				

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

3.4.3 Using EXPRESSBUILDER DVD (Option)

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

Installation from Windows (Desktop Experience)

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

Installation from Windows (Server Core)

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

\mathbf{cd}	/d D:\016\win\winnt\bin	
	C:\Users\administrator> cd	/d D:\016\win\winnt\bin

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

pkgsetup.vbs
D:\016\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) Desktop Experience

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

EXPRESSBUI	LDER		NEC
		Instruction Manuals	
	0	Versions	
		Integrated Installation	
		Applications	
	Ľ	Files for Setup	
	۲	Maintenance	
	Ы	Exit	
			Version x.xx-xxx.xx (xxx)

The following screen is displayed.

2. Click "Exit" to quit the menu.

Check is now complete.

(2) Server Core

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

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

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

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

Wait for a while until the command is completed.

eb_cli.exe 'load /repository'

Check is now complete.

3.6 Setting Up Device Drivers

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

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

3.6.1 Installing the LAN drivers

(1) LAN drivers

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

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

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

N8104-149/150/151/152/157

The LAN drivers of N8104-149/150/151/152/157 are installed automatically by Windows Plug-and-Play. As for N8104-149/157, however, if the LAN board is not equipped with the server at the time when the Starter Pack is being applied or setup with EXPRESSBUILDER, appropriate drivers will not be installed automatically if you additionally equip the LAN board.

In that case, install the LAN drivers by the following steps.

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
\016\win\winnt\drivers\02_network\1_as_04\install_ws2016.bat
```

If using EXPRESSBUILDER, run the following file.

\016\win\winnt\drivers\02 network\1 as 04\install ws2016.bat

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

QLOGIC Driver Installation Completed!

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

Setup is now completed.

N8104-157

Note

When Intel(R) Network Connections xx.xx.xx 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 \016\win\winnt\drivers\02_network\1_ag_04\install_ws2016.bat

If using EXPRESSBUILDER, run the following file.

\016\win\winnt\drivers\02 network\1 ag 04\install ws2016.bat

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

Intel Driver Installation Completed!

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

Setup is now completed.

(3) Network adapter name

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

Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx (*1)

If connecting with an optional LAN board:

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

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

[N8104-157] : Intel(R) Ethernet Controller X550 #xx (*1)

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

Tips

The ID for N8104-149 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

3.6.2 Setting up LAN drivers

(1) Setting link speed

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

Tips

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

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

The link speed setting is now complete.

(2) Configuring Flow Control

Flow Control is a feature to stop transmitting frames temporarily by sending a pause frame to the destination device when the receive buffer is about to run out. When it receives a pause frame, it regulates the transmission. Configure the Flow Control following the procedure below.

Tips

The settings of Transmit/Receive of the network adapter should match those of the destination device. For example, if Flow Control in the destination device is set as Receive only, that in the server should be set as Transmit only.

- 1. Open the **Device Manager**.
- 2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to configure. The properties of the network adapter will be displayed.
- 3. Open Advanced tab and click Flow Control to show Value.
- 4. The **Value** can be changed by the down-arrow button.
- 5. Click OK.
- 6. Restart the system.

The Flow Control setting is now complete.

(3) When using N8104-150/151/152

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

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

C:\Program Files(x86)\EXPRESSBUILDER\repository \016\win\winnt\drivers\02 network\1 ah 03\pgdyavd disable.vbs

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

\016\win\winnt\drivers\02_network\1_ah_03\pgdyavd_disable.vbs

2. When the following message appears, click OK.



Tips

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

3. Restart the system.

Setup is now completed.

3.6.3 Graphics accelerator driver

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

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

Tips

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

To install drivers separately, take the following steps.

- 1. Double-click the install.bat icon in the following folder.
 - If Starter Pack was installed from Internal Flash Memory:
 C:\Program Files(x86)\EXPRESSBUILDER\repository
 \016\win\winnt\drivers\03_graphics\1_aj_03\install.bat
 - When using EXPRESSBUILDER DVD: \016\win\winnt\drivers\03_graphics\1_aj_03\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.

3.6.4 Using Optional Graphics Accelerator Card

If an optional graphics accelerator card is installed, see the Startup Guide/User's Guide of the graphics accelerator card.

3.6.5 Using SAS controller (N8103-142)

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

3.6.6 Using SAS controller (N8103-184)

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

Drivers customized for this server is installed by applying the Starter Pack.

3.6.7 Using RAID Controller (N8103-176/177/178/179/188/205/206/207/208/210/211)

The driver for RAID Controller N8103-176/177/178/179/188/205/206/207/208/210/211 is automatically installed by Windows Plug-and-Play.

Drivers customized for this server is installed by applying the Starter Pack.

3.6.8 Using Fibre Channel controller (N8190-159/160)

The driver for Fibre Channel controller N8190-159/160 is automatically installed by Windows Plug-and-Play. Drivers customized for this server is installed by applying the Starter Pack. However, if you additionally equip a Fibre Channel controller (N8190-159/160), right click on following file, and

select Run as Administrator.

C:\Program Files(x86)\EXPRESSBUILDER\repository \016\win\winnt\drivers\01 storage\1 ao 04\utl\cli inst.bat

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

\016\win\winnt\drivers\01_storage\1_ao_04\utl\cli_inst.bat

3.6.9 Using Fibre Channel controller (N8190-161/162)

The driver for Fibre Channel controller N8190-161/162 is automatically installed by Windows Plug-and-Play. Drivers customized for this server is installed by applying the Starter Pack. However, if you additionally equip a Fibre Channel controller (N8190-161/162), right click on following file, and select Run as Administrator.

C:\Program Files(x86)\EXPRESSBUILDER\repository \016\win\winnt\drivers\01_storage\1_au_01\utl\cli_inst.bat

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

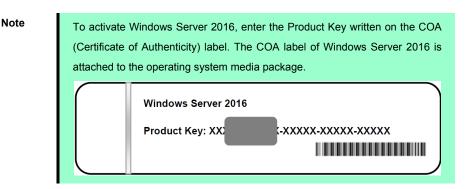
\016\win\winnt\drivers\01_storage\1_au_01\utl\cli_inst.bat

3.7 License Authentication

To use Windows Server 2016, you need finish the license authentication procedure.

Be sure to perform the license authentication procedure.

Confirm if the license is authenticated or not in the next step.



3.7.1 Desktop Experience

1. Right-click the left bottom of screen, and click System from the menu displayed.

Recycle	Bin		
	Programs and Features		
	Bouver Ontione Event Viewer		
	System Device Manager		
	Network Connections Disk Management		
	Computer Management Command Prompt		
	Command Prompt (Admin)		
	Task Manager Control Panel		
	File Explorer Search		
	Run 		
	Desktop		
	A 🗆 🤶 📜	~ 12/7/2010	5

- 2. Check Windows license authentication.
 - If "Windows is activated." is displayed: You do not need to perform this procedure.
 - □ If "Connect to the internet to activate Windows." is displayed: Go to Step 3.

	·	Computer description: Workgroup: WORKGROUP	
	See also Security and Maintenance	Windows activation Connect to the Internet to activate Windows. Kead the Micro Product ID: 00000-00000-00000	osoft Software License Terms PActivate Windows
с Р	ê 📄 📟		^ 🔽 🔩 11:43 AM 🛃

3. Click Activate Windows.

	Product ID: 00	000-0000-0000-000	000	Activate Window
Perform license au Settings	thenticatio	on.		- 0
Home		Windows	5	
Find a setting	Q	Edition	Windows Server 2016 Star	ndard
Update & security		Activation	Unable to reach Windows Learn more	activation servers
		Product Key	XXXXX-XXXXX-XXXXX-XX	XXX-XXXXX
Windows Defender		Activate	Windows now	
C Recovery		To install a ne	w product key, select chang	e product key.
 Activation 		Change	product key	
H For developers		If you're havir try and fix the	g problems with activation, problem.	select Troubleshoot
		C Troubles	hoot	

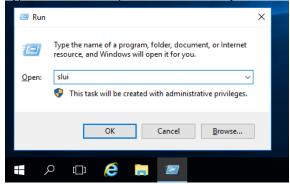
- When connected to Internet:
 Click Change product key.
 Complete license authentication process according to the message.
- □ When not connected to the Internet: Go to Step 5.
- 5. Perform the license authentication by phone. Go to the appropriate step according to OS install media you are using.

□ Backup DVD-ROM

- : Go to the next step.
- □ Windows Server 2016 DVD-ROM
 - Product key is already entered: Go to Step 9.
 - Product key is not entered: Go to the next step.
- 6. Right-click the left bottom of screen, and click **Run** from the menu displayed.

Task Manager
Control Panel
File Explorer
Search
Run
Shut down or sign out >
P □ € □

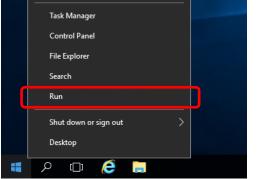
7. Type "slui", and then press the <Enter> key.



8. Change the product key. On the next screen, enter the product key.

Enter a product key	
Your product key should be in an email from whoever sold or the box the Windows DVD or USB came in.	distributed Windows to you, or on
The product key looks similar to this: PRODUCT KEY: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX	
Product key	
Dashes will be added automatically	
	Cancel

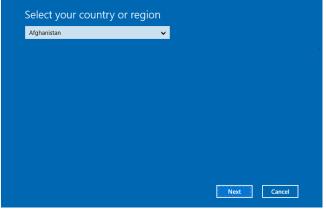
9. <u>Right-click the left bottom of screen, and click **Run** from the menu displayed.</u>



10. <u>Type "slui 4", and then press the <Enter> key.</u>

🖅 Run		х
0	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.	
<u>O</u> pen:	slui 4 ~	
	OK Cancel <u>B</u> rowse]
	o (]) 🥭 📒 🔳	

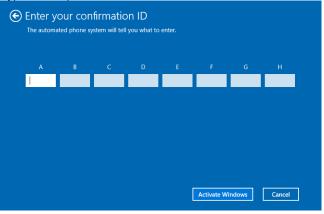
11. On the next screen, select your country, and then click Next.



Acquire the installation ID required for license activation.

								ion ID (IID). Sor es or regions.
Toll free: not availa								
Toll: (971) (4) :	391 7000							
Installati	on ID:							
0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000

12. 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.

3.7.2 Server Core

1. Confirm if your license is activated.

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

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

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

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

2. Change the product key.

When using Backup DVD-ROM:

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

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

When using Windows Server 2016 DVD-ROM:

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

3. Perform license authentication.

When connected to the Internet:

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

C:\Users\administrator>slmgr -ato

This completes authentication.

When not connected to the Internet:

Use telephone for license authentication.

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

C:\Users\administrator>slmgr -dti

Acquire the installation ID required for license activation.

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

Call Microsoft Licensing Center and tell them your Install ID.

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

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

This completes authentication.

3.8 Setup of Windows Server 2016 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 /server . , and then pressing the <Enter> key.

(2) Creating a team

Create a team by using the NIC teaming setup tool.

1. In the **Servers** section, select the name of the server to set up.

If there is only one server connected, the name of the server is selected automatically.

- 2. In the Teams section, under Tasks, select New Team. The New Team wizard then starts.
- Type the name of the team to create, and then select the network adapter to include in the team from the Member adapters list.
- 4. Click Additional properties.
- 5. Specify the required settings, and then click OK.

Teaming mode

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

Load balancing mode

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

(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.
- When teaming is configured in a Network Load Balancing (NLB) environment, you should select multicast mode on the NLB cluster.

Refer to the following website for the latest information.

http://www.58support.nec.co.jp/global/download/w2016/index.html

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

3.9 Installing the Applications

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

- 1. Sign-in to the system with the built-in administrator, which has administrative privileges.
- 2. 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.

EXPRESSBUILDER		NEC
	Instruction Manuals	
i	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files for Setup	
٩	Maintenance	
B	Exit	
		Version x.xx-xxx.xx (xxx)

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

The selected applications are automatically installed.

NEC EXPRESSB	BUILDER			
EXPR	ESSBUILDER		NE	
	Integrated Installation			
	Install the following software. – Install Starter Pack prior to installing the ap – Uninstall the application prior to reinstalling	plication. the application.		_
	Contro Bold PopUlations Phace ESMPRO ServerAgentService Phace ESMPRO ServerAgentService Program Report Service (HTTPS) Universal RAD Utility Product thic Collection Utility Product thic Collection Utility Product thic Collection Agent	Rev1.3 Rev3.5E Rev3.7 Rev4.10 Rev2.93 Rev2.3.1 Rev3.18	Not installed Not installed Not installed Not installed Not installed Not installed	
	Note	• If your	ations available for	installation are selected by default. In the does not satisfy the prerequisite for an application, details, refer to the on-screen information and <i>Chapter</i>

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

Now installation of applications is completed.

3.10 Installation When Multiple Logical Drives Exist

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

(1) Installation process

Setup with EXPRESSBUILDER

Important	Defense starting action, he cause to discourse the and disk drives from the DAID
important	• Before starting setup, be sure to disconnect hard disk drives from the RAID
	 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 (3.2 Setup with EXPRESSBUILDER), and proceed with setup.

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

- Setup with Windows standard installer
 - 1. 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 <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 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.

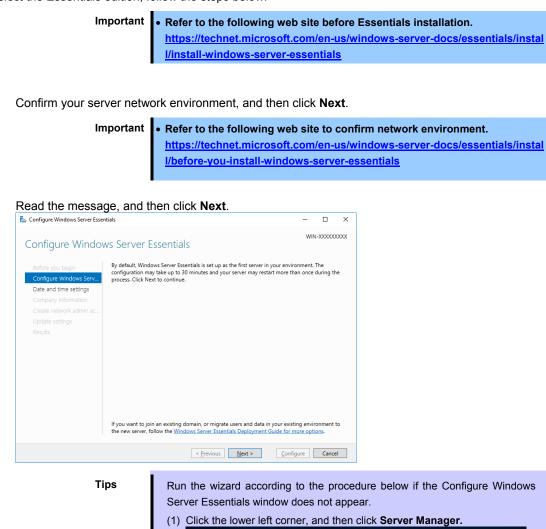
- 1. Right-click the left bottom of screen, and click Computer Management.
- 2. From the window on the left, select **Storage**, and then **Disk Management**.
- 3. Right-click the volume whose drive letter you want to change, and then select **Change drive letter and** paths.
- 4. Click **Change** and **Assign the following drive letter**, and then select the drive letter you want to assign.
- 5. Click OK.
- 6. Close the Server Manager.

1.

2.

3.11 Configure Windows Server Essentials

If you select the Essentials edition, follow the steps below.





Server Manager	er Essentials.	- C • ② 🌇 Manage Tools View
Dashboard	WELCOME TO SERVER MANAGER	
Local Server All Servers File and Storage Services	1 Configure this lo	cal server
Windows Server Essenti	QUICK START 2 Add roles and feat	tures
	3 Add other servers	to manage
	WHAT'S NEW 4 Create a server gr	oup
	5 Connect this serve	
	LEARN MORE	Hi
		nce

3. Confirm the time settings, and then click **Next**.

Configure Windows Server Esser	ntials — 🗆	>
ime settings	WIN-XXX	00000
Before you begin Configure Windows Serv Date and time settings	Ensure that the date, time, and time zone settings on your system clock are correct. This hell prevent potential connectivity problems between your server and your computers. The server time is currently set to: 1/20/2017 849:59 PM ((UTC-08:00) Pacific Time (US & Ca	
Company information Create network admin ac Update settings Results	Change pystem date and time settings	
	Why are the date and time settings important?	
	< Previous Next > Configure Ca	ncel

4. Set the Company information, and then click **Next**.

Configure Windows Server Esse	itiais	- 0
Company informa	ition	WIN-XXXXXXXX
	Company name:	
Configure Windows Serv	XXXXXXXX	
Date and time settings	Internal <u>d</u> omain name:	
Company information	XXXXXXX Set <u>Full D</u>	IS Name
Create network admin ac	(for example Contoso Co. might choose CONTOSO)	
	The internal domain name identifies your business network log on to their computers on the network. The internal name, and is not visible outside your network. Server name: X0000000/ (for example Contoso Co. might choose ContosoServer/ The server name uniquely identifies your server on your	domain name is not an Internet domain
	These settings cannot be changed after your server What should I know before I personalize my server?	configuration is complete.

5. Create a network administrator account, and then click Next.

Before you begin	administrator account Create a network administrator account that you can use to perform server management tasks. To help protect your network, you should use the administrator account only when you need to
Configure Windows Serv Date and time settings Company information	perform administrative tasks that require administrator privileges. Administrator account name:
Create network admin ac Update settings Results	Password: ********* Confirm passworg:

6. Select **Use recommended settings**, and then click **Configure**.

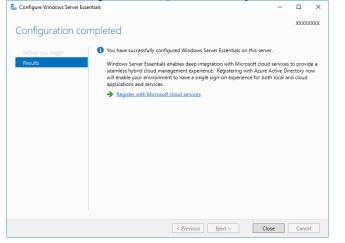
Configure Windows Server Esse	ntiais — Li X
Update settings	WIN-30000000
Before you begin Configure Windows Serv Date and time settings Company information Create network admin ac Update settings Results	Che recommended settings Install important and recommended updates, check online for solutions to problems, and help Microsoft improve Microsoft Windows Server 2016 Essentials. O pils later If you choose this option, your server might be vulnerable to security threats, and problems might be harder to fix. Privacy Statement
	< <u>Previous</u> <u>Next</u> > <u>Configure</u> <u>Cancel</u>

The setup will start. Wait until the setup is complete.

Configure Windows Server Essentials	-	
Updating and prepa		00000000
	nat is all the information that you need to provide. Your server is being prepared for use start more than once. This may take up to 30 minutes. Preparing your server	t and may
	Please do not perform any other operations that can change the server configuratio off.	n or turn it Cancel
Tips	Do not perform any operations eve	n if the server is restarted.

7. Sign in to the Windows with the account which created at Step 5.

8. Confirm the configuration completion correctly, and then click Close.

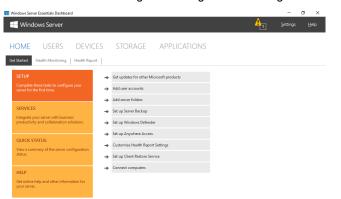


9. Click the shortcut of the Windows Server Essentials dashboard.

Recycle Bin	The second s
Windows Server Es.	
# P 🗆 🖬 🌔 🛤	^ #⊒ ds 940914 ₩
Tips	Click Yes when the User Account Control window appears.

10. The following window will appear.

Continue to set the settings according to the message of window.



Windows Server 2016 Essentials installation is now completed.

4. Setting Up Windows Server 2012 R2

Set up Windows Server 2012 R2.

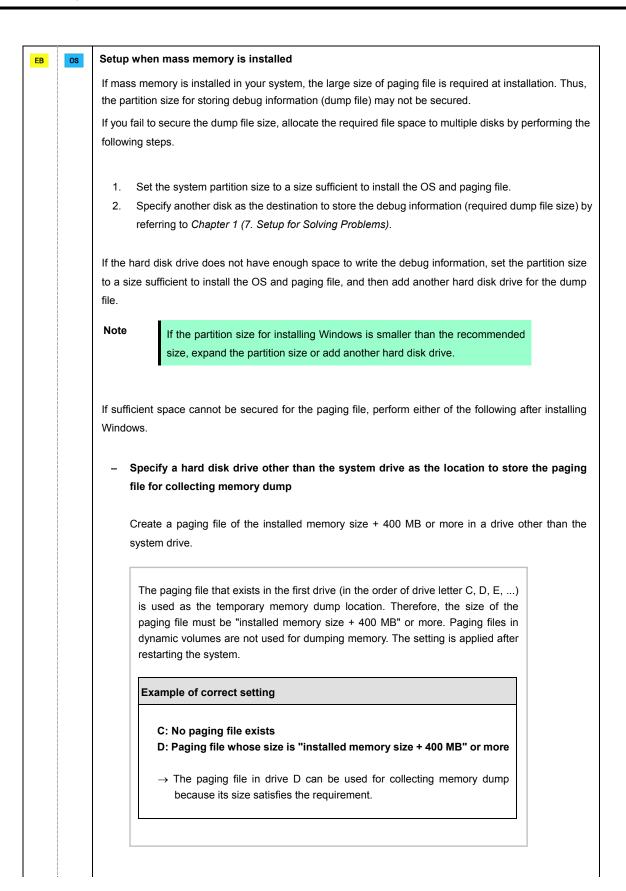
4.1 Before Starting Setup

Read through the cautions explained here before starting setup.

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

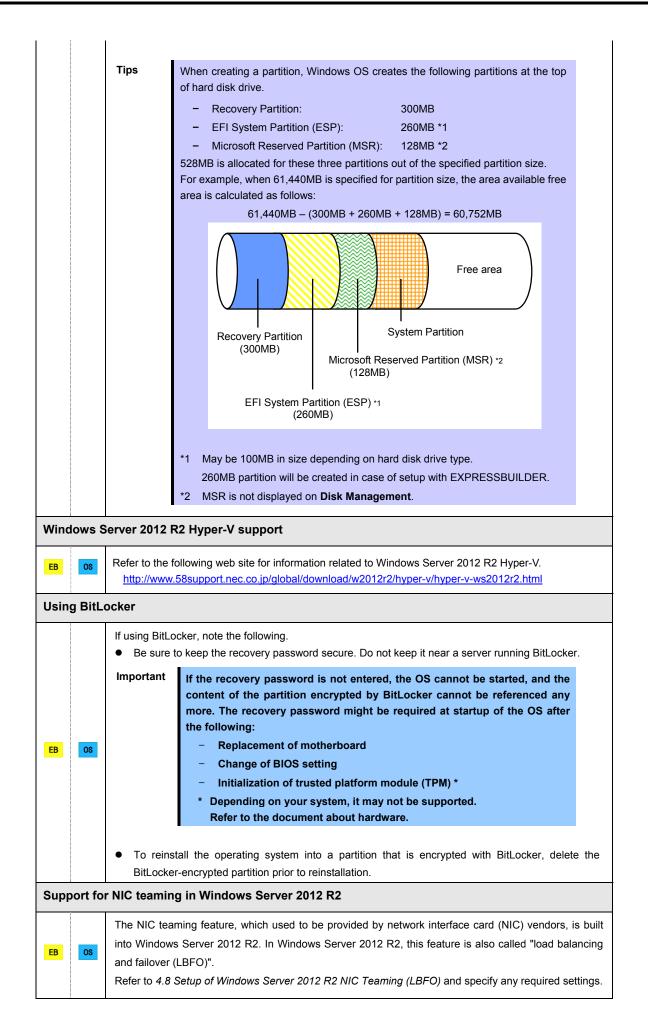
BIOS	S settir	ng		
ЕВ	OS	Change details.	e Boot Mode to UEFI Mode. See Chapter 2 (1. System BIOS) in Maintenan	ce Guide for
		Boot →	ightarrow Boot Mode $ ightarrow$ UEFI	
EB	OS		Enabled for X2APIC feature of processor. See Chapter 2 (1. System BIOS) in or details.	Maintenance
		Advand	ced $ ightarrow$ Processor Configuration $ ightarrow$ X2APIC $ ightarrow$ Enabled	
			stallation, open Boot Option Priorities in BIOS SETUP to make sure that the han Windows Boot Manager is specified for optical disk drive.	ligher boot
			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. 	
			Example of incorrect setting	
EB	08		 [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	 Before opening BIOS SETUP, be sure to insert OS installation media into drive. If Windows Boot Manager is not displayed in Boot Option Priorities, ye confirm the boot priority. 	·
EB	OS		a graphics accelerator card of the option is equipped, please check the content Guide/User's Guide of a graphics accelerator card, and configure BIOS settings	

Hard	ware o	configuration
		The following hardware configurations require special procedures.
ЕВ	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	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	OS	DAT, LTO, and similar 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, refer to <i>Chapter 1 (4.10 Installation When Multiple Logical Drives Exist</i>). * 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.



	e of incorrect setting 1
	aging file whose size is smaller than the installed memory size aging file whose size is "installed memory size + 400 MB" or more
col	e paging file in drive C is used for collecting memory dump, but ection may fail because the size of the paging file is smaller than the talled memory size.
Example	e of incorrect setting 2
D: Pa	aging file whose size is "installed memory size × 0.5" aging file whose size is "installed memory size × 0.5" aging file whose size is 400 MB
ME	e total paging file size in all drives is "installed memory size + 400 ", but collection may fail because only the paging file in drive C is ed for collecting memory dump.
Example	e of incorrect setting 3
D: Pa	o paging file exists Iging file whose size is "installed memory size + 400 MB" or more dynamic volume)
_	
dui	ging files in a dynamic volume cannot be used for collecting memory np. Thus, collecting memory dump fails.
dur becify a dr	np. Thus, collecting memory dump fails.
dur becify a dr reate the re ump File.	
dur becify a dr reate the re ump File.	np. Thus, collecting memory dump fails.
dur cecify a dr reate the re ump File.	np. Thus, collecting memory dump fails. ive other than the system drive for "Dedicated Dump File". gistry shown below by using the Registry Editor and specify the name cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
dur cecify a dr reate the re ump File. <when spe<br="">Key:</when>	np. Thus, collecting memory dump fails. ive other than the system drive for "Dedicated Dump File". gistry shown below by using the Registry Editor and specify the name cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
Specify a dr Create the re Dump File. <when specifies<br="">Key: Name:</when>	np. Thus, collecting memory dump fails. ive other than the system drive for "Dedicated Dump File". gistry shown below by using the Registry Editor and specify the name cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile
dur pecify a dr reate the re ump File. <when spe<br="">Key: Name: Type: Data:</when>	np. Thus, collecting memory dump fails. ive other than the system drive for "Dedicated Dump File". gistry shown below by using the Registry Editor and specify the name cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
dur pecify a dr reate the re ump File. <when spe<br="">Key: Name: Type: Data: Note the fo</when>	np. Thus, collecting memory dump fails. ive other than the system drive for "Dedicated Dump File". gistry shown below by using the Registry Editor and specify the name cifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ
dur pecify a dr reate the re ump File. <when spe<br="">Key: Name: Type: Data: Note the fo • Pay s</when>	Inp. Thus, collecting memory dump fails.
dur pecify a dr reate the re ump File. <when spe<br="">Key: Name: Type: Data: Note the fo • Pay s • The s</when>	Inp. Thus, collecting memory dump fails.
dur pecify a dr reate the re ump File. <when spe<br="">Key: Name: Type: Data: Data: Note the fo • Pay s • The s • Spec</when>	Inp. Thus, collecting memory dump fails. Inp. Thus, collecting memory dump fails. Inve other than the system drive for "Dedicated Dump File". Instant display the system drive for "Dedicated Dump File". Instant display the system drive for "Dedicated Dump File.sys" in drive D> Instant display the file named "dedicated dumpfile.sys" in drive D> Instant display the file named "dedicated dumpfile.sys" in drive D> Instant display the file named "dedicated dumpfile.sys" in drive D> Instant display the file named "dedicated dumpfile.sys" in drive D> Instant display the file named "dedicated dumpfile.sys" in drive D> Instant display the file name dis

OS	The system	n partition size can be calculate	d by using the following formula.			
	-		ile size + dump file size + application size			
	01201000					
	Server wi					
		equired to install the OS	= 9,200MB			
		g file size (recommended)	= installed memory size × 1.5			
	-	file size	= installed memory size + 400MB			
	Application size = as required by the application					
	Server Co	ore installations				
		equired to install the OS	= 6,400MB			
		g file size (recommended)	= installed memory size \times 1.5			
	-	file size	= installed memory size + 400MB			
	Application size = as required by the application					
	-	e, if the installed memory size is selected, the partition size is	is 1 GB (1,024 MB), application size is 100MB, and Serv calculated as follows:			
	9 200M	B + (1,024MB × 1.5) + 1,024MI	3 + 400MB + 100MB			
	= 12,26	. ,				
	- 12,20	UND				
	The above r	montioned partition size is the r	ninimum partition size required for system installation.			
		the partition size is sufficient for				
			n system operations.			
	The followin	ng partition sizes are recommer	nded.			
		ver with a GUI :	32,768MB (32GB) or more			
	001					
	0					
			32,768MB (32GB) or more			
		ver Core installations:GB = 1,024 MB	32,768MB (32GB) or more			
		GB = 1,024 MB				
	*1 G	GB = 1,024 MB The above paging file size 	zes are recommended for collecting debug information			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz 	tes are recommended for collecting debug information the Windows partition paging file must be large			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file 	tes are recommended for collecting debug information the Windows partition paging file must be large tes.			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file 	tes are recommended for collecting debug information the Windows partition paging file must be large			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff 	tes are recommended for collecting debug information the Windows partition paging file must be large tes.			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff 	tes are recommended for collecting debug information te of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff there will be a virtual men correct debug information 	tes are recommended for collecting debug information te of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect n.			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff there will be a virtual mer correct debug information Regardless of the sizes of the size of	tes are recommended for collecting debug information the of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect n. of internal memory and write debug information, the			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff there will be a virtual men correct debug information Regardless of the sizes of maximum size of the dur 	tes are recommended for collecting debug information te of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect n. of internal memory and write debug information, the np file is "size of internal memory + 400 MB".			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff there will be a virtual men correct debug information Regardless of the sizes of maximum size of the dur When installing other app 	tes are recommended for collecting debug information the of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect n. of internal memory and write debug information, the np file is "size of internal memory + 400 MB". oblications or other items, add the amount of space			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff there will be a virtual men correct debug information Regardless of the sizes of maximum size of the dur 	tes are recommended for collecting debug information the of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect n. of internal memory and write debug information, the np file is "size of internal memory + 400 MB". oblications or other items, add the amount of space			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff there will be a virtual men correct debug information Regardless of the sizes of maximum size of the dur When installing other app 	tes are recommended for collecting debug information the of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect n. of internal memory and write debug information, the np file is "size of internal memory + 400 MB". oblications or other items, add the amount of space			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff there will be a virtual men correct debug information Regardless of the sizes of maximum size of the dur When installing other app 	tes are recommended for collecting debug information the of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect n. of internal memory and write debug information, the np file is "size of internal memory + 400 MB". oblications or other items, add the amount of space			
	*1 G	 GB = 1,024 MB The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suff there will be a virtual mer correct debug information Regardless of the sizes of maximum size of the dur When installing other app needed by the application 	tes are recommended for collecting debug information the of the Windows partition paging file must be large es. icient paging file size. If the paging file is insufficient, mory shortage that may result in an inability to collect n. of internal memory and write debug information, the np file is "size of internal memory + 400 MB". oblications or other items, add the amount of space			



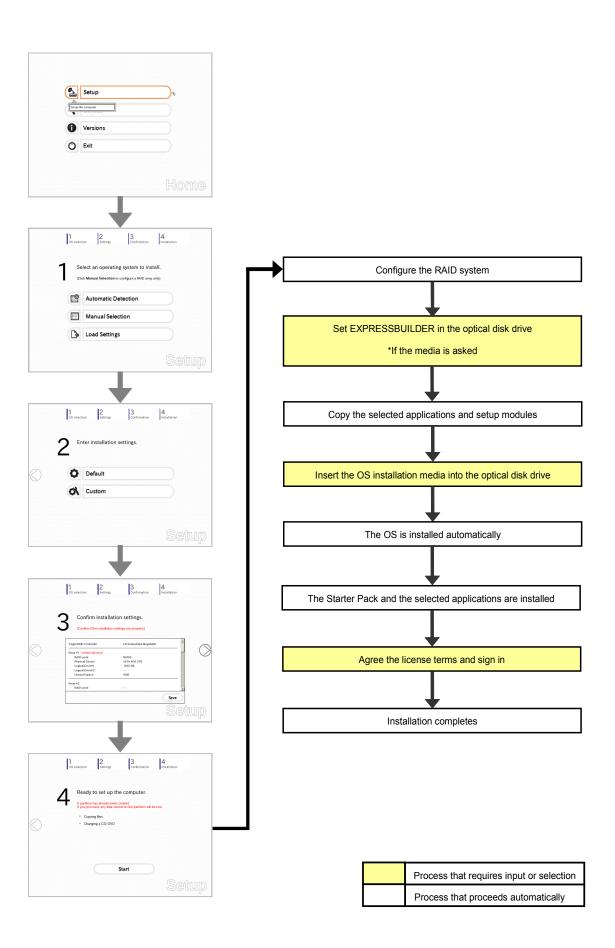
4.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

Important	 Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: RAID settings Partition Settings Backing up user data, as needed, is recommended. Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup.
Note	 The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP function may affect the system performance. Contact your sales representative for details. When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (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, refer to <i>Chapter 1 (8. Windows OS Parameter File)</i>.

4.2.1 Setup flow



4.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

4.2.3 Setup procedure

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

Note

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

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



The following window appears.



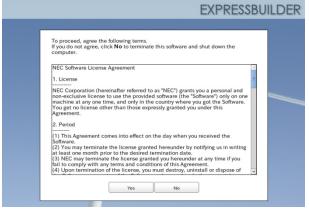
The server starts from EXPRESSBUILDER.



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



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



6. Click Setup.

Setup	Setup	®
Ū	Versions	
Ø	Exit	

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

			system to	
E	Autom	natic De	tection	
	Manu	al Select	tion	
B	Load	Settings		

- 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.

Selec	t an operating	system to inst	all.
(Click M	anual Selection to co	onfigure a RAID array c	inly)
	utomatic Det	ection	<i>b</i>
Select an ope automatically disc.	with an installation	ion	
	oad Settings		

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

1

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

-			
	elect an operatin	• •	
¥ [2	Automatic De	etection	
	Manual Selec	tion	
Đ	Load Settings	5	

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

1 OS selection Settings	3 Confirmation	4 Installation
Select an operating s (Click Manual Selection to com		
Automatic Dete	ction	
Manual Selection	on	Ŀ
You can select the target OS of the installation from the menu.		
		Setup

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

	Select an operating system to install.
	Windows Windows Server 2012 R2
	○ VMware
2	O RAID Configuration Only

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

1	Seleo	t an operati	ng system to	install.	
I	(Click N	lanual Selection t	o configure a RAID	array only)	
	° A	utomatic D	etection		(
✔ [lanual Sele	ction		
])	<u></u> Э L	oad Setting	s		

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

1 OS sele	ction 2 3 Confirmat	ion Installation
	elect an operating system to	
E	Automatic Detection	
	Manual Selection	
D	Load Settings	
Load	installation settings.	Setup

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

laces	Name	~	Size Modified
💁 Search	🛅 cdrom1		05/08/2014
Recently Used			
oot 🔄			
💐 Desktop			
File System			
Documents			
Music			
Pictures			
Videos			
Downloads			

Tips

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

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

	1 OS select	on Settings Confirm	mation Installation	
1		lect an operating system		
	e	Automatic Detection		\bigcirc
		Manual Selection		
~	B	Load Settings		
			Set	up

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).

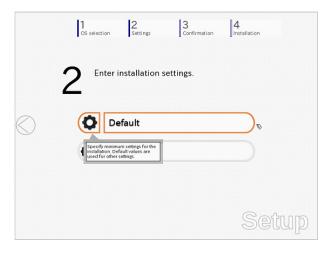
1 OS sele	ction Settings	3 Confirmation	4 Installation	
2	nter installation	settings.		
Ø	Default			
101	Custom			

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.

1 OS select	ion 2 Settings	3 Confirmation	4 Installation
2 "	nter installation	settings.	
0	Default		
Ø	Custom		
			Setup
		2 Enter installation	

12. Click Default.



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

		10	12	14	
Wizard					
		o set up the comp use the Windows s			
Basic Setting					
Operating	system	: Windows Se	erver 2012 R2		
Edition		: Standard(Server with a GUI)	0	
Language		: English	0		
-Password	Settings				
Administ	rator Passw	rord	:		(Required)
Reenter	Administrat	or Password	:		(Required)
		Finish			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.
- 12-(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 14.

	1 OS selec	tion Settings	3 Confirmation	4 Installation	
	2 -	nter installation	settings.		
\bigcirc	~ 0	Default			\bigcirc
	64	Custom			
				Set	turo

13. Click Custom.

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

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

Note

(1) With the **Skip Configuring RAID Array** check box cleared, click **Next**. Set up the logical drives according to the wizard

An operating system will be installed to Jninstall all RAID controllers not to be u selected.				
Device Information		_		
RAID Controller		:	MegaRAID 945N-8i	Detail
Number of Physical Drives		:	2	
Summary of RAID Array		_		
Array #1 RAIDO (2disk(s)) Logical Drive1 (278GB)				
RAID Configuration				
Skip Configuring RAID Array				
				1 / 11 Page
	_			Cancel

Important When a new logical drive is created, the existing RAID system is destructed and the contents of hard disk drive will be erased.

(2) Setting the disk array configuration and the RAID level.

Physical Drive	Array#1	Array#2	Hot Spare	Unuse
SATA #00* 139.2GB	۲	0	0	0
SATA #01*139.2GB	۲	0	0	0
RAID Level	RAID1 0			

(3) Specify the size of the logical drive by the GB unit as needed.

Array #1		Array #2	
Unused Space:	0 GB	Unused Space:	GB
(Logical Drive#1) : System D	rive	(Logical Drive#3):	
Maximum Size	139 GB	O Maximum Size	GB
O Size	GB	OSize	GB
(Logical Drive#2):		(Logical Drive#4):	
O Remaining Space	GB	O Remaining Space	GB
○ Size	GB	O Size	GB
* For drive capacity measuremen		0/	
			3 / 11 Page
			3 / 11 Page

Note

The RAID level and the logical drive size varies depending on hardware configuration.

When skipping the creation of new logical drives

(1) <u>Select the Skip Configuring RAID Array check box, and then click Next.</u>

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	Array		
			1 / 11 Pag
			1 / 11 Pag

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

Choose Install Windows using EXPRESSBUILDER, and then click Next.

Choose Use Windows sta Windows installation disc. Choose Install Windows applications easily.			
Basic Settings			
Operating system	: Windo	ws Server 2012 R2	
O Use Windows s	tandard installer		
□	using EXPRESSBUILDER		
Edition	: Standard(Serve	r with a GUI)	\$
Language	: English	0	
Time Zone	: (UTC-08:00) Pa	cific Time (US & Cana	ada) 🗘
			4 / 11 Page
			47.11.660
Back	Next		Cancel

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

Modify the settings as needed, and then click Next.

	Wizard		
	Specify the settings of the system partition for Windows. Windows will be installed into the first hard disk drive or logical drive. All data currently on an existing partition, shown with a red frame, will be deleted.		
$\langle \rangle$	Current Partitions (the area shown with a red frame will be deleted) : D 00[(F1732) D 07(NTTS) D Data Partition Pree Space (0.3G8) (Total:40.3G8) (0.1G8) (1076G8) Partition Settings Create a new partition O Use all space Type a partition size (Minimum: 40GB / Recommended: 40GB / Maximum: 1116G8)		
	5 / 11 Page		
	Back Next Cancel		
l			
	Important • Partition size		
		er than the minimum required er to <i>Chapter 1 (4.1 Before Sta</i>	-
	 The maximum partition s 	ə is 2,097,152 MB.	
	The entire contents of the d	tination hard disk drive will be	e deleted.

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

Tips

Wixard Personalize the computer. Type Computer Name within 15 char Administrator Password must be at It three of the four categories (numbers/u User Information Computer Name User Name Administrator Password Reenter Administrator Password	east six characters in length and must contain characters from				
Back Next					
Note	Computer name and Administrat Enter Administrator Password th – Contains 6 or more charact – Contains characters from at uppercase letters (A - Z), lo	at sati ers : least	sfies the follo three of the f	owing conditions	:: ries: numbers,

- The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name.
- If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Reenter Administrator password text boxes.

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

Choose a network protocol Choose Custom Settings,	click Advanced , if you wa	nt to type an IP a	ddress.
Network Protocols			
Standard Setti	7.		
Custom Setting	gs ter - Internet Protocol (IPv4)		
Standard Adapt		v.	Advanced
			7 / 11 Page
Back	Next		Cancel
Dack	Next		

Tips

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

Note Even when an optional network board is connected, **Custom settings** only shows standard network boards. After finishing Setup with EXPRESSBUILDER, specify the optional network settings again.

13-(6) Specify the domain or workgroup.

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

Choose Join a workgroup or Joi	a workgroup. n a domain, and then enter parameters.	
 Join a workgroup Workgroup Name 	: WORKGROUP	
└ O Join a domain		
Domain Name	:	
Account Name	:	
Password Reenter Password	:	
Neenker Fassword		
		8 / 11 Page

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

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

Wizard Choose Windows components you want to Install.			Wizard cose Windows components you war	nt to install.	
Sarver Rules Sarver (IS) Sarver DisCS Server His Sarvices DisCS Server His Sarvices Hispar-V Withows Features Signaple TCP/IP Services MWHS Server	d	© [-Server Roles Ukb Server (IIS) DKCP Server NKIndows Features SNMP Server Winds Server VKINS Server	Print and Document Services IR Services Hyper-V	Advanced
9/11 Back Next Cred			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
	~	Add >>	NEC ESMPRO ServerAgentService Express Report Service Express Report Service(HTTPS) Universal RAID Utility Microsoft .NET Framework Version 3.5.1
		<< Delete	Microsoft .NET Framework Version 3.5.1 Microsoft .NET Framework Version 4.5.2 NEC ExpressUpdate Agent
De	escription		
			10 / 11 Page

On the following screen, click Finish.

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

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

2 Enter installation settin	gs.
Default	
Custom	

14. Check the parameter settings.

OS selection	gs 3 4 Installation
9 Confirm insta	llation settings.
(Check if valid instal	lation settings are specified)
Skip configuring RAID array.	
Operating system	: Windows Server 2012 R2
(Install Windows using EXPRES	SBUILDER)
Edition Language	: Standard(Server with a GUI) : English
	Save

Click \bigcirc on the right side of the screen.

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

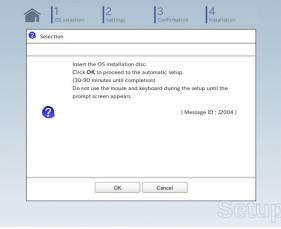
	1 OS selection	2 Settings	3 Confirmation	4 Installation
$\langle \rangle$	A partition if you prov Confi Copy	guring RAID system	reated. ed on the partition will be	ə lost
	• Chan	ging media	Start	
				Setup

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 EXPRESSBUIL		Message ID : J2002]	
3				
	ОК	Cancel	۰ ۲	_

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



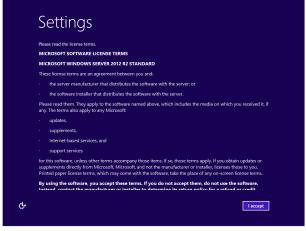
Windows Server 2012 R2 is installed automatically.

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.

$1_{2} \Rightarrow 2_{2}$
Installing Starter Pack.
Please wait for a while.
1 /2 4 2 /2
Installing applications.
Please wait for a while.

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



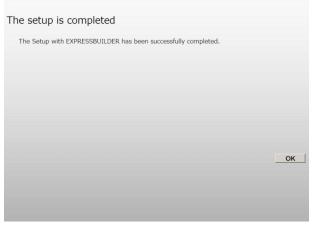
20. Press the CTRL+ALT+DEL keys to sign in.

Press Ctrl+A	lt+Delete 1	to sign in.				
-12	:3	34				
Frida	y, N	over	nber 2	29		
ዮ						

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 (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 R2 NIC Teaming (LBFO)) to setup a team as needed.
- 26. Execute setup by following the instructions described in Chapter 1 (7. Setup for Solving Problems).
- 27. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.

Setup with EXPRESSBUILDER is now complete.

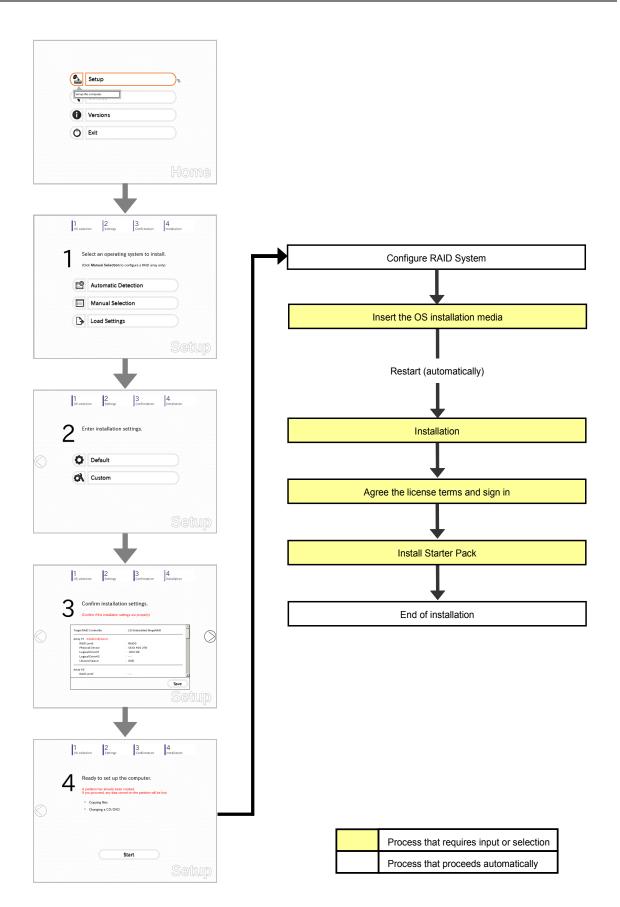
4.3 Setup with Windows Standard Installer

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

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

Important	 Setup with Windows standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: RAID settings When re-installing an OS, backing up user data, as needed, is recommended.
Note	When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (5. 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, refer to <i>Chapter 1 (8. 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 media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2012 R2 DVD-ROM*)
- > Either of the following EXPRESSBUILDER
 - Internal Flash Memory
 - EXPRESSBUILDER DVD (Option)
- > Prepare if needed:

Removable media for Windows OS parameter file

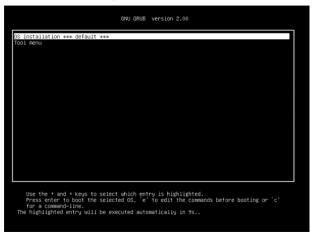
4.3.3 Setup procedure

Note

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

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

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



The following window appears.



The server starts from EXPRESSBUILDER.



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



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

To proceed, agree the	e following terms. lick No to terminate this software and shut down the
computer.	The root of terminate this software and shut down the
NEC Software License	e Agreement
1. License	
	reinafter referred to as "NEC") grants you a personal and
machine at any one t	to use the provided software (the "Software") only on one ime, and only in the country where you got the Software.
You get no license ot Agreement.	her than those expressly granted you under this
2. Period	
(1) This Agreement co Software.	omes into effect on the day when you received the
	e the license granted hereunder by notifying us in writing
	te the license granted you hereunder at any time if you
(3) NEC may terminat	ny terms and conditions of this Agreement.
at least one month pr	rior to the desired termination date. te the license granted you hereunder at any time if you

6. Click Setup.



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

1 Selection Selection Confirmation Installation	
Select an operating system to install. (Click Manual Selection to configure a RAID array only)	
Automatic Detection	
Manual Selection	
Load Settings	
Setup	
□ When <i>not using</i> a parameter file : Select 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.	
Note When setting up again, parameter input via the wizard can be omitted by load the saved parameter file.	ling

- 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.

Se	lect an operating system to in	stall.
(Clic	k Manual Selection to configure a RAID array	ay only)
	Automatic Detection	D ^D
Select a automa disc.	n operating system tically with an installation	
F	Load Settings	

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

	Insert the OS installation	ent to install	
	EXPRESSIONEDER WII	Message ID : B2014]	
0			

8-(3)			of the scree		step 11.
			ng system to ins o configure a RAID array		
	¥ [2]	Automatic D	etection		\bigcirc
		Manual Sele	ction		
	B	Load Setting	s		
				Set	tup

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

1 OS selection	2 Settings	3 Confirmation	4 Installation
	ct an operating Manual Selection to o		
	Automatic De	tection	
	Manual Selec	tion	Ŵ
You can set the installati	ect the target OS of ion from the menu.		
			Setup

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

	Select an operating system to install. Windows Windows Server 2012 R2
	○ vMware
0	
•	RAID Configuration Only
	OK Cancel

9-(3)	Click 🕗			of the scree		step 11.
				ng system to insi 10 configure a RAID array		
		e	Automatic D	etection		\bigcirc
		• 🗆	Manual Sele	ction		
		B	Load Setting	ıs		
					Set	tup

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

1 OS selection 2 Settings 3 Confirmatio	n Installation
Select an operating system to i (Click Manual Selection to configure a RAID a	
Automatic Detection	
Manual Selection	
Load Settings	<i>w</i>
Load installation settings.	Setup

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

		ing u i no			
mnt us	ar_connect				
Places	Name		~	Size	Modified
Search	🛅 cdrom 1				05/08/2014
Recently Used					
oot i					
📓 Desktop					
File System					
Documents					
Music					
Pictures					
Videos					
Downloads					
Add Remove					
			Can	cel	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.

1 s	elect an operating system to in	ıstall.
(0	lick Manual Selection to configure a RAID arr	ay only)
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).

2) En	ter installation settings.	
-	•	Default	
~	Ø	Custom	

11. Click Custom.

2 Enter installation settings.	Default	1 OS selection	2 Settings	3 Confirmation	4 Installation
	Custom Specify all settings for the	2^{Enter}	installation se	ettings.	
Custom	Specify all settings for the		efault		
	Specify all settings for the installation.	CI	ustom		<i>P</i>

- 11-(1) Use this menu to configure the RAID system with the RAID controller detected automatically.
 - Note When using an onboard RAID controller (LSI Embedded MegaRAID): 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

(1) With the **Skip Configuring RAID Array** check box cleared, click **Next**. Set up the logical drives according to the wizard.

-Device Information-				
RAID Controller	: N	legaRAID 945N-8i	Det	ail
Number of Physical Drives	: 2			
Summary of RAID Array				
Array #1 RAIDO (2disk(s)) Logical Drive1 (278GB)				
RAID Configuration				
Skip Configuring RAID Array				
			1 / 11 P	age

Important When a new logical drive is created, the existing RAID system is destructed and the contents of hard disk drive will be erased.

(2) Setting the disk array configuration and the RAID level.

Physical Drive	Array#1	Array#2	Hot Spare	Unuse
SATA #00* 139.2GB	۲	0	0	0
SATA #01*139.2GB	۲	0	0	0
RAID Level	RAID1 0			

(3) Specify the size of the logical drive by the GB unit as needed.

Array #1	Array #2	
Unused Space: 0 GB	ennere epineer.	GB
(Logical Drive#1) : System Drive	(Logical Drive#3):	
Maximum Size 139 GB	Unaximum Size	GB
O Size GB	- Dire	GB
(Logical Drive#2):	(Logical Drive#4):	
Remaining Space GB	Remaining Space	GB
O Size GB	O Size	GB
For drive capacity measurements, 1TB = 102		3 / 11 Page

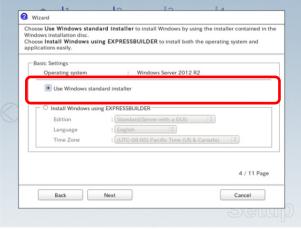
The RAID level and the logical drive size varies depending on hardware configuration.

When skipping the creation of new logical drives

(1) Select the Skip Configuring RAID Array check box, and then click Next.

selected.	t to be used for the US I	nstallation if the incorre	ct RAID controller is
Device Information			
RAID Controller	:		Detail
Number of Physical Drive	is : 2		
Summary of RAID Array			
Array #1 RAID0 (1disk) Logical Drive1 (1117GE	3)		× =
Arrow #2			
RAID Configuration			
Skip Configuring RAIE) Array		
			1 / 11 Page
			1 / 11 Page

11-(2) Check the settings specified for **Basic Settings**. Choose **Use Windows standard installer**, and then click **Next**.



On the following screen, click Finish.

	0	14
 Wizard 		
The settings are now complete Click Finish to close this wind	low.	
		11 / 11 Page
Back	Finish	Cancel

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

0S select	tion 2 Settings	3 Confirmation	4 Installation	
2 "	nter installation	settings.		
Ø	Default			(
~ Ø	Custom			
			Saf	יח חר?
	2 [•]	2 Enter installation	2 Enter installation settings.	2 Enter installation settings.

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

Confirm installat	ion settings.	
(Check if valid installation	n settings are specified)	
[
Skip configuring RAID array.		
Operating system	: Windows Server 2012	2 R2
(Use Windows standard installer)		
Copying OEM drivers	: No	
-		
		Save

13. The setup process starts.

Click Start to continue setup.

	1 2 3 4 CS selection Settings Confirmation Installation
	Ready to set up the computer. A partition has already been created. If you proceed, any data stored on the partition will be lost.
\bigcirc	Configuring RAID system Changing a CD/DVD Installing an OS
	<u>Se</u> tup

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

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

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

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

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



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

17. Click Next.



18. Click Install now. Windows setup starts.

_	Windows Setup	- • •
	Windows Server 2012 R2	!
	Install now	
<u>R</u> epair your computer		
© 2013 Microsoft Corporation. A	NI rights reserved.	

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

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

19. Click **Browse** and select the destination, and then click **OK**. Specify the displayed drive as **INTER-FLASH**.

\016\win\winnt\drivers\01_storage\1_al_07

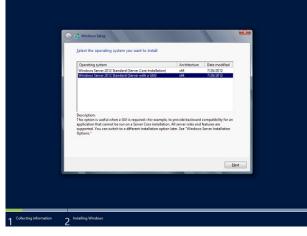
- Tips
 The volume label of Internal Flash Memory is INTER-FLASH.
 If INTER-FLASH label is not displayed, reboot the server, and then perform setup again from step 15.
- 20. Select the following driver from the driver list shown, and then click Next.

LSI Embedded MegaRAID

21. Type the product key, and then click **Next.** <u>If you are using Backup DVD</u>, this screen does not appear. Go to the next step.

	🕞 💑 Windows Setup	
	Enter the product key to activate Windows	
	It should be on the back of the box that Windows came in or in a message that shows you bought Windows.	
	The product key looks like this: X0000-X0000-X0000-X0000-X0000 Dashes will be added automatically.	
	Privacy statement Next	
Collecting information	nstalling Windows	
	2 Installing Windows	

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



23. 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.

	🖉 Windows Setup	
G	License terms	
	MICROSOFT SOFTWARE LICENSE TERMS MICROSOFT WINDOWS SERVER 2012 R2 STANDARD These 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; 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, V [accept the leane term]	,
1 ^{Collecting information} 2	nstalling Windows	liet

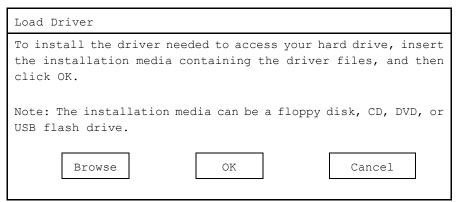
24. Select the installation type.

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.	
	Custom: Install Windows only (advanced) The title, withing, and applications and it moved. Windows with this spitan, if you want to recommend backing up your file before you continue.	
1 Collecting information 2	nstalling Windows	

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

If you select Load Driver, the following message appears.



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

Onboard RAID Controller (LSI Embedded MegaRAID):

\016\win\winnt\drivers\01_storage\1_al_07

RAID Controller (N8103-205/206/207/208/210/211) :

\016\win\winnt\drivers\01_storage\1_ay_02

Tips	 When using an EXPRESSBUILDER DVD, replace the DVD media in step 24 and select the optical disk drive.
	 When using an onboard RAID controller, the driver can be loaded from the EXPRESSBUILDER DVD by using USB optical disk drive.
	 If INTER-FLASH label is not displayed, reboot the server, and then perform setup again from step 15.

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

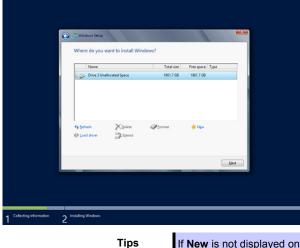
Onboard RAID Controller (LSI Embedded MegaRAID) : LSI Embedded MegaRAIDRAID Controller (N8103-205): MegaRAID 944N-8iRAID Controller (N8103-206/207): MegaRAID 946N-8i 2GRAID Controller (N8103-208): MegaRAID 946N-8i 4G

- RAID Controller (N8103-210/211) : MegaRAID 945N-8i
- 28. If you inserted the EXPRESSBUILDER DVD in Step 25, remove it, and then insert the OS installation media.



29. Click New.

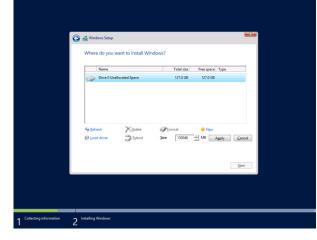
If a partition has already been created, go to step 32.



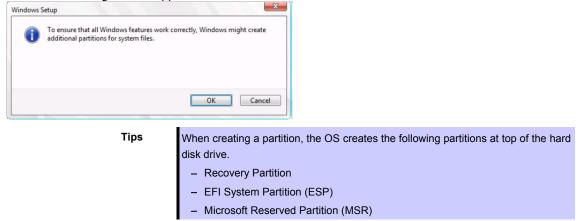


If New is not displayed on the screen, click Drive options (advanced).

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.

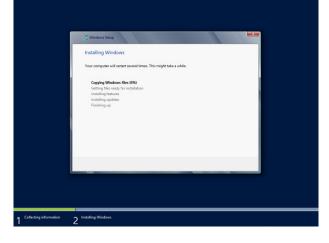
32. Select the created partition, and then click Next.

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

Tips

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

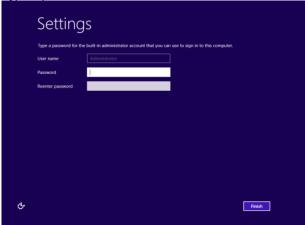
When the following message appears, Windows installation starts automatically.



33. The following screen appears according to the operating system selected in Step 22.

Server with a GUI

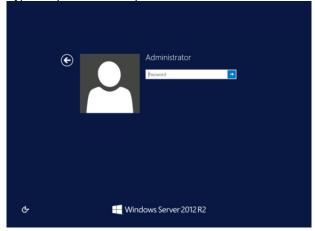
Type a password and click Finish.



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



Type the password and press <Enter>.



Windows Server 2012 R2 starts.

1	Ser	ver Manager	- 0 X
€⊙- Serve	er Manager • Dashboard	• 🗇 🏲 Manag	
Dashboard	WELCOME TO SERVER MANAGER		
All Servers	1 Confi	igure this local server	
	QUICK START	d roles and features	
	MALINE MENT	d other servers to manage eate a server group	
	LEARN MORE		Hide
	ROLES AND SERVER GROUPS Roles: 0 Server groups: 1 Servers totals	1	
	Local Server 1	All Servers 1	
	Manageability Events	Manageability Events	
	Services Performance	Services Performance	
	BPA results	BPA results	
	(3)		12:50 AM

Server Core Installations

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

Type the new password.

(•	e)	Administrator
		New password
		Confirm password
ራ		Windows Server 2012 R2

Click OK.

Administrator Your password has been changed.	
Windows Server 2012 R2	

Windows Server 2012 R2 starts

33.	Administrator: C:\Windows\system32\cmd.exe	-	×
C:\Users\Administra	ator>		_
			-
			~

Tips

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

34. 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 DVD (Option)
- 35. See *Chapter 1 (4.5 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 (4.6 Setting Up Device Drivers).
- 37. Confirm if Windows is activated according to Chapter 1 (4.7 License Authentication).
- 38. See Chapter 1 (4.8 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 (4.9 Installing the Applications).
- 40. Execute setup by following the instructions described in Chapter 1 (7. 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.

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

Important	Also install Starter Pack in the following cases.
	 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 (4.6 Setting Up Device Drivers).
Note	The Scalable Networking Pack (SNP) function is disabled upon Starter Pack installation is complete.
	The setting of SNP function may affect the system performance.
Tips	If the OS is installed by using EXPRESSBUILDER, Starter Pack is already applied.
	If the configuration is not changed, you do not need to apply Starter Pack again.

4.4.1 Installing Starter Pack after POST

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

```
Note 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.

					GNU	GRUB	version 2.00
install menu	ation	***	default	***			
Press for a	enter comma	to b nd-1	boot the	selec	ted OS	s, `e'	try is highlighted. ' to edit the commands before booting or `c' omatically in 9s

The following window appears.



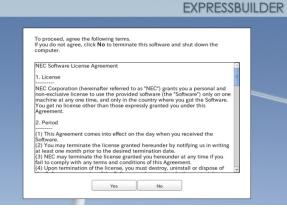
The server starts from EXPRESSBUILDER.



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



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



6. Click Utilities.

Utilities	
Move to Utilities Menu.	₽
() Exit	

7. Click Starter Pack Installation.



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

Selection		
	Starter Pack will be installed on your Windows system. Proc [Message ID : P;	
0		
	Yes No	

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

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

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

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

Cd /d C:\StartPKG

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

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

app_pkg.bat

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

11. The following screen appears.

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

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

12. Read the message, and then click OK.

Starter Pack	x
Setup is going to install Starter Pack. If you install it, click [OK], if you wish to cancel it, click [Cancel]. This process disables following function. If you use the function, enable it after the reboot. + RSS(Receive-Side Scaling) + TCP Chimney Offload (ID:C202g)	
OK Cancel	

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

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

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

Starter Pack	x
Installing Starter Pack was completed. The setup reboots for installing drivers. If the media is set in Optical Disc Drive, take it out, and click [OK]. (ID:C100x)	
ОК	

Installation of Starter Pack is now complete.

4.4.2 Installing Starter Pack using Windows Application

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

- 1. Sign-in to the system with the 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.

EXPRESS	BUILDER		NEC
		Instruction Manuals	
	0	Versions	
	F	Integrated Installation	
		Applications	
		Files for Setup	
	٩	Maintenance	
	M	Exit	
			Version x.xx-xxx.xx (xxx)

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			
	NEC ESMPRO ServerAgentService	Rev1.22	Not installed	
	Express Report Service Express Report Service (HTTPS)	Rev3.5E Rev3.6	Not installed 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	
9				
Bel			In	stall
	L			

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 DVD (Option)

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

Installation from Windows (Server with a GUI)

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

Installation from Windows (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:\016\win\winnt\bin C:\Users\administrator>cd /d D:\016\win\winnt\bin
- 2. Enter the following, and then press the <Enter> key.

pkgsetup.vbs

D:\016\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 with a GUI

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

The following scre	en is displayed.	
EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
F	Integrated Installation	
	Applications	
	Files for Setup	
٩	Maintenance	
	Exit	
		Version x.xx-xxx.xx (xxx)

2. Click "Exit" to quit the menu.

Check is now complete.

(2) Server Core Installation

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

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

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

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

Wait for a while until the command is completed.

eb_cli.exe 'load /repository'

Check is now complete.

4.6 Setting Up Device Drivers

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

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

4.6.1 Installing the LAN drivers

(1) LAN drivers

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

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

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

(2) Optional LAN board

This server supports the following optional LAN boards.

N8104-149/150/151/152/157

The LAN drivers of N8104-149/150/151/152/157 are installed automatically by Windows Plug-and-Play. As for N8104-149/157, however, if the LAN board is not equipped with the server at the time when the Starter Pack is being applied or setup with EXPRESSBUILDER, appropriate drivers will not be installed automatically if you additionally equip the LAN board.

In that case, install the LAN drivers by the following steps.

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

IP address.

\016\win\winnt\drivers\02_network\1_as_02\install_ws2012r2.bat

If using EXPRESSBUILDER, run the following file.

\016\win\winnt\drivers\02_network\1_as_02\install_ws2012r2.bat

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

QLOGIC Driver Installation Completed!

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

Setup is now completed.

N8104-157

Note

When Intel(R) Network Connections xx.xx.xx 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 \016\win\winnt\drivers\02_network\1_ag_02\install_ws2012r2.bat

If using EXPRESSBUILDER, run the following file.

\016\win\winnt\drivers\02_network\1_ag_02\install_ws2012r2.bat

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

Intel Driver Installation Completed!

 When LAN board is new addition, configure 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 on the Device Manager.

Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx (*1)

If connecting with an optional LAN board:

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

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

[N8104-157] : Intel(R) Ethernet Controller X550 #xx (*1)

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

Tips

The ID for N8104-149 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

4.6.2 Setting up LAN drivers

(1) Setting link speed

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

Tips

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

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

The link speed setting is now complete.

(2) Configuring Flow Control

Flow Control is a feature to stop transmitting frames temporarily by sending a pause frame to the destination device when the receive buffer is about to run out. When it receives a pause frame, it regulates the transmission. Configure the Flow Control following the procedure below.

Tips

The settings of Transmit/Receive of the network adapter should match those of the destination device. For example, if Flow Control in the destination device is set as Receive only, that in the server should be set as Transmit only.

- 1. Open the Device Manager.
- 2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to configure. The properties of the network adapter will be displayed.
- 3. On the Advanced tab and click Flow Control to show Value.
- 4. The Value can be changed by the down-arrow button.
- 5. Click OK.
- 6. Restart the system.

The Flow Control setting is now complete.

(3) When using N8104-150/151/152

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

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

C:\Program Files(x86)\EXPRESSBUILDER\repository \016\win\winnt\drivers\02 network\1 ah 02\pgdyavd disable.vbs

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

\016\win\winnt\drivers\02_network\1_ah_02\pgdyavd_disable.vbs

2. When the following message appears, click OK.



Tips

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

3. Restart the system.

Setup is now completed.

4.6.3 Graphics accelerator driver

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

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

Tips

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

To install drivers separately, 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
 \016\win\winnt\drivers\03_graphics\1_aj_05\install.bat
 - When using EXPRESSBUILDER DVD: \016\win\winnt\drivers\03_graphics\1_aj_05\install.bat
- You will be prompted to confirm the End User License Agreement during this process. Click the ACCEPT button to continue.
- 3. Restart the system.

Graphic accelerator driver installation is now complete.

4.6.4 When a graphics accelerator card of the option is used

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

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

The driver for SAS controller N8103-142/184 is automatically installed by Windows Plug-and-Play. Drivers customized for this server is installed by applying the Starter Pack.

4.6.6 When using a RAID Controller (N8103-176/177/178/179/188/205/206/207/208/210/211)

The driver for RAID Controller N8103-176/177/178/179/188/205/206/207/208/210/211 is automatically installed by Windows Plug-and-Play. Drivers customized for this server is installed by applying the Starter Pack.

4.6.7 When using a Fibre Channel controller (N8190-159/160)

The driver for Fibre Channel controller N8190-159/160 is automatically installed by Windows Plug-and-Play. Drivers customized for this server is installed by applying the Starter Pack. However, if you additionally equip a Fibre Channel controller (N8190-159/160), right click on following file, and select Run as Administrator.

C:\Program Files(x86)\EXPRESSBUILDER\repository \016\win\winnt\drivers\01_storage\1_ao_03\utl\cli_inst.bat

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

\016\win\winnt\drivers\01_storage\1_ao_03\utl\cli_inst.bat

4.6.8 When using a Fibre Channel controller (N8190-161/162)

The driver for Fibre Channel controller N8190-161/162 is installed by applying the Starter Pack. However, if you additionally equip a Fibre Channel controller (N8190-161/162), right click on following file, and select Run as Administrator.

C:\Program Files(x86)\EXPRESSBUILDER\repository \016\win\winnt\drivers\01_storage\1_au_03\utl\cli_inst.bat

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

\016\win\winnt\drivers\01_storage\1_au_03\utl\cli_inst.bat

4.7 License Authentication

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

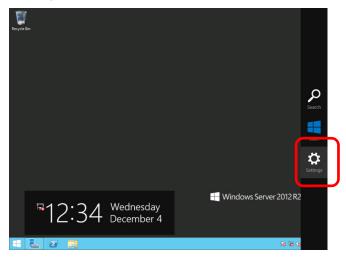
Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

Connect to the Internet to perform the authentication procedure.

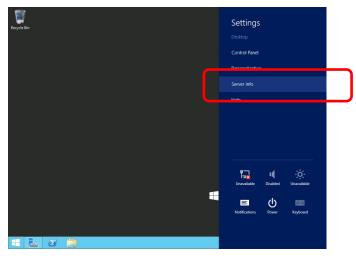
Or, use the telephone to perform the authentication procedure.

(1) Server with a GUI

1. Click Settings on the Charms bar.



2. Click Server info.



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

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

4. Click Activate Windows.

Computer name:	^^^^	Trange settings
Full computer name:	****	
Computer description:		
Workgroup:	WORKGROUP	
Nindows activation Windows is not activated	I. Read the Microsoft Software License Terms	
Product ID: 00000-00000	-00000-00000	Activate Windows

5. 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 Window.
	The product key looks similar to this: PRODUCT KEY.100000-300000-300000-300000
	Product key Dashes will be added automatically
	Cancel
	H Windows Server 2012 R2
	- 122 A
	2 📑 🔳 12/201

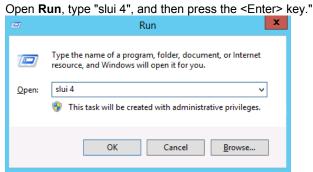
License is activated after entering the product key.

Complete license authentication process according to the message.

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

slmgr /ipk <product key>

7. Activate your license by phone.



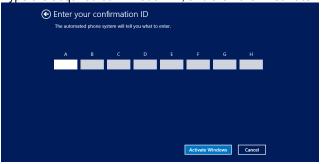
8. On the next screen, select your country, and then click Next.

Select your country or region	, in the second s			
Afghanistan 🗸				
		Next	Cancel	

Acquire the installation ID required for license activation

Toll free: not available Tol: (97) (4) 917 000 Installation ID: 1 2 3 4 5 6 7 8 9 1 2 3 4 5 6 7 8 9 add our provide optimized optized optimized optimized optimized optized optized o									lation ID (II tries or regi	
(971) (4) 391 7000 Installation ID: 1 2 3 4 5 6 7 8 9 0000000 0000000 0000000 0000000 0000000		ble								
1 2 3 4 5 6 7 8 9 0000000 0000000 0000000 0000000 0000000		191 7000								
0000000 0000000 0000000 0000000 0000000	Installati	on ID:								
	0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000	

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



(2) Server Core installation

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

C:\Users\administrator>slmgr -dli

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

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

2. Change the product key.

When using Backup DVD-ROM:

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

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

When using Windows Server 2012 R2 DVD-ROM:

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

3. Perform license authentication.

When connected to the Internet:

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

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

This completes authentication.

When not connected to the Internet:

Use telephone for license authentication.

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

C:\Users\administrator>slmgr -dti

Acquire the installation ID required for license activation.

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

Call Microsoft Licensing Center and tell them your Install ID.

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

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

This completes authentication.

4.8 Setup of Windows Server 2012 R2 NIC Teaming (LBFO)

Set up the network adapter teaming feature as shown below.

(1) Launching the NIC teaming setup tool

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

The NIC teaming setup tool will launch.

Tips

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

(2) Creating a team

Create a team by using the NIC teaming setup tool.

1. In the **Servers** section, select the name of the server to set up.

If there is only one server connected, the name of the server is selected automatically.

- 2. In the Teams section, under Tasks, select New Team. The New Team wizard then starts.
- Type the name of the team to create, and then select the network adapter to include in the team from the Member adapters list.
- 4. Click Additional properties.
- 5. Specify the required settings, and then click OK.

Teaming mode

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

Load balancing mode

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

(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)]

4.9 Installing the Applications

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

- 1. Sign-in to the system with the built-in administrator, which has administrative privileges.
- 2. 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.

EXPRESSBUILDER		NEC
	Instruction Manuals	
i	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files for Setup	
٩	Maintenance	
붠	Exit	
		Version x.xx-xxx.xx (xxx)

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

The selected applications are automatically installed.

EXPR	ESSBUILDER			NEC							
	Integrated Installation										
	Install the following software. - Install Starter Pack prior to installing the - Uninstall the application prior to reinstalling C Starter Pack Applications E NEC ESMPRO ServerAgentService E Express Report Service (HTTPS) Microsoft .NET Framework Version 4.5.2 V Universal RAID Utility P Product Info Collection Utility P Product Univer P NEC Express/Update Agent	ng the application. Rev1.22 M Rev3.5E M Rev3.6 M Rev4.10 M Rev4.10 M Rev2.9.3 M	Not installed Vot installed Vot installed Vot installed Vot installed Vot installed Vot installed Vot installed								
(%			Instal	I							
	Note	 Application If your sy you cannot 2.) 		ronment	t doe	es not	satisfy	the pr	erequis	ite for ar	

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

Now installation of applications is completed.

4.10 Installation When Multiple Logical Drives Exist

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

(1) Installation process

Setup with EXPRESSBUILDER

-	
Important	Before starting setup, be sure to disconnect hard disk drives from the RAID
	Controller that is not used for setup, if the server has two or more RAID
	Controllers installed.
	Disconnect an external disk (*) from the server by turning the power of it off
	or disconnecting cables. Install those hard disk drives and cables after
	setup has completed. Conducting setup with those being connected with
	the server may cause existing data to be erased unintentionally.
	* Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit

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

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

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

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

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

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

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

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

Tips

I

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

(2) Changing drive letter assignments

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

- 1. Right-click the left bottom of screen, and click Computer Management.
- 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** paths.
- 4. Click **Change** and **Assign the following 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 2012

Set up Windows Server 2012.

5.1 Before Starting Setup

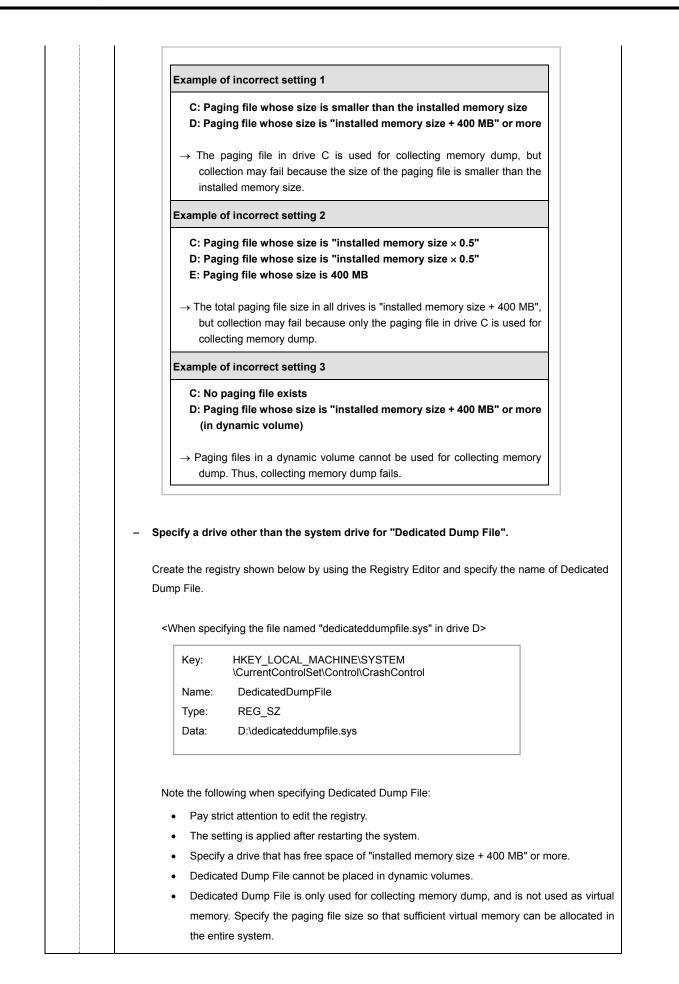
Read through the cautions explained here before starting setup.

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

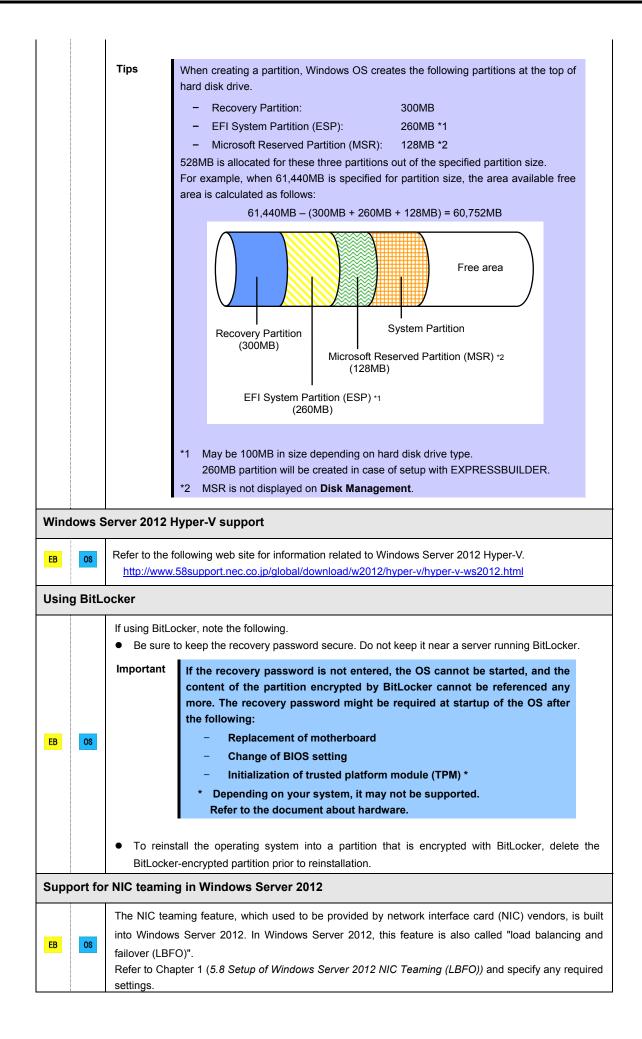
e et Me de te LICCI Me de					
Change Boot Mode to UEFI Mode. See Chapter 2 (1. System BIOS) in Maintenance Guide for details. Boot → Boot Mode → UEFI					
Select Enabled for X2APIC feature of processor. See <i>Chapter 2 (1. System BIOS)</i> in <i>Maintenance Guide</i> for details. Advanced \rightarrow Processor Configuration \rightarrow X2APIC \rightarrow Enabled					
 lation, open Boot Option Priorities in BIOS SETUP to make sure that the him Windows Boot Manager is specified for optical disk drive. cample of correct setting [Boot]–[Boot Option Priorities] Boot Option #1 [UEFI: Optical Disk Drive] Dist Option #2 Pitte days Boot Manager 	gher boot				
 → The system can boot from OS installation media. cample of incorrect setting [Boot]–[Boot Option Priorities] – Boot Option #1 [Windows Boot Manager] 					
 → The system cannot boot from OS installation media. Before opening BIOS SETUP, be sure to insert OS installation media into drive. If Windows Boot Manager is not displayed in Boot Option Priorities, yo confirm the boot priority. 					
	bot Mode → UEFI abled for X2APIC feature of processor. See Chapter 2 (1. System BIOS) in I letails. → Processor Configuration → X2APIC→ Enabled lation, open Boot Option Priorities in BIOS SETUP to make sure that the him a Windows Boot Manager is specified for optical disk drive. tample 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. tample of incorrect setting [Boot]-[Boot Option Priorities] - Boot Option #1 [Windows Boot Manager] - Boot Option #1 [Windows Boot Manager] - Boot Option #2 [UEFI: Optical Disk Drive] - The system cannot boot from OS installation media. • Before opening BIOS SETUP, be sure to insert OS installation media into drive. • If Windows Boot Manager is not displayed in Boot Option Priorities, you				

Hard	Hardware configuration						
	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	08	Peripheral devices such as RDX/MO Remove an MO device before installing an OS. Some peripheral devices need to be halted before installation. Refer to the manual provided with the peripheral devices for how to set a device appropriate to installation.					
EB	OS	DAT, LTO, or similar media Do not set any media such as DAT or LTO during setup.					
EB	08	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, refer to <i>Chapter 1</i> (<i>5.10 Installation When Multiple Logical Drives Exist</i>). * 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 **0**S 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 (7. 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 + 400 MB or more in a drive other than the system drive. The paging file that exists in the first drive (in the order of drive letter C, D, E, ...) is used as the temporary memory dump location. Therefore, the size of the paging file must be "installed memory size + 400 MB" or more. Paging files in dynamic volumes are not used for dumping memory. The setting is applied after restarting the system. Example of correct setting C: No paging file exists D: Paging file whose size is "installed memory size + 400 MB" or more \rightarrow The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.



OS	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 GUISize required to install the OS= 9,400MBPaging file size (recommended)= installed memory size × 1.5Dump file size= installed memory size + 400MB					
	Application size = as required by the application					
	Server Core installationsSize required to install the OS= 6,300MBPaging file size (recommended)= installed memory size × 1.5Dump file size= installed memory size + 400MBApplication size= as required by the application					
	For example, if the installed memory size is 1 GB (1,024 MB), application size is 100MB, and Server with a GUI is selected, the partition size is calculated as follows:					
	9,400MB + (1,024MB × 1.5) + 1,024MB + 400MB + 100MB = 12,460MB					
	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 : 32,768MB(32GB) or more					
	Server Core installations : 32,768MB(32GB) 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 store 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. 					
	If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive.					



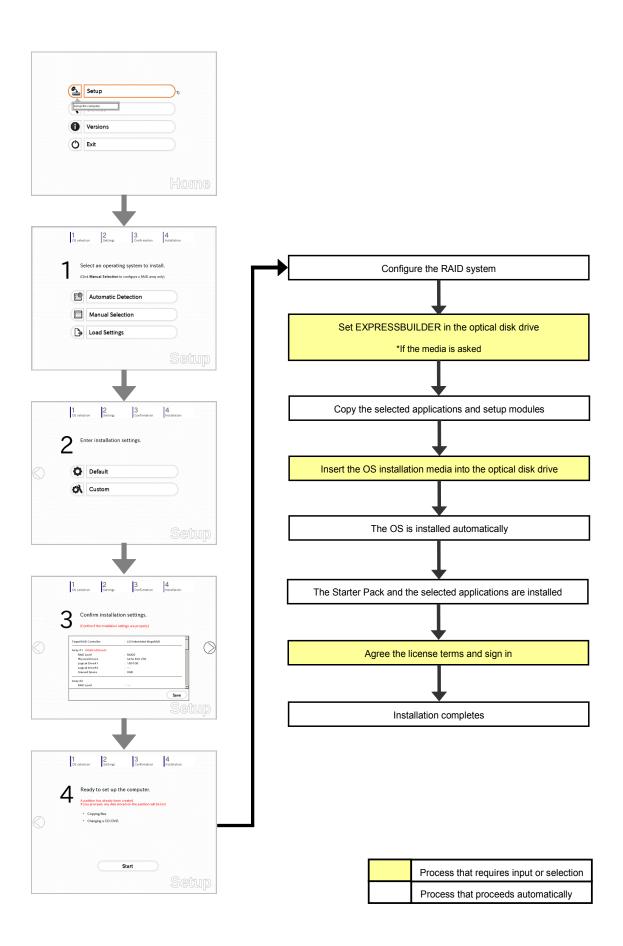
5.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

Important	 Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: RAID settings Partition Settings When re-installing an OS, 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.
	before starting setup.
Note	 The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP function may affect the system performance. Contact your sales representative for details. When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (5. RAID System Configuration)</i> in "Maintenance Guide" 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, refer to <i>Chapter 1 (8. Windows</i> OS <i>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 2012 DVD-ROM)
- Either of the following EXPRESSBUILDER
 - Internal Flash Memory
 - EXPRESSBUILDER DVD (Option)
- Prepare if needed:
 - Removable media for Windows OS parameter file

Tips

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

5.2.3 Setup procedure

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

Note

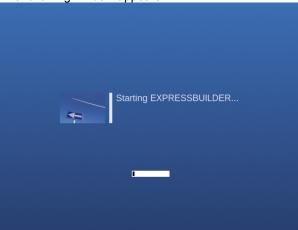
Read through the items in *Chapter 1* (5.1 *Before Starting Setup*) prior to installing Windows.

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

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

GN	J GRUB	version 2.00
DS installation *∺* default *** Tool menu		
Use the * and * keys to select wh: Press enter to boot the selected (for a command-line. The highlighted entry will be execute]S, `e'	to edit the commands before booting or `c'

The following window appears.



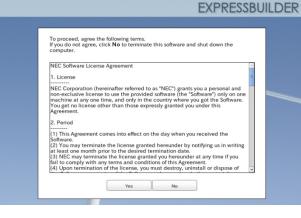
The server starts from EXPRESSBUILDER.



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



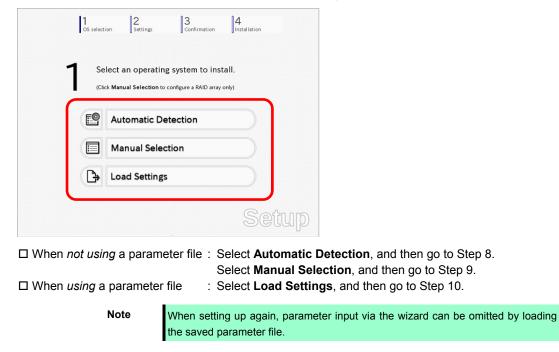
5. When the following screen appears, read the contents and click Yes.



6. Click Setup.

Setup	Setup	\$
	Versions	
٥	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.

8-(1) Click Automatic Detection.

1 Si Selection	2 3 ettings Confirmation	4 Installation
	perating system to inst election to configure a RAID array	
Select an operating sys automatically with an ir disc.	term stallason	e e
Load S	Settings	
		Setup

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

	Insert the OS installati EXPRESSBUILDER will	ant to install.	
		[Message ID : E	32014]
0			

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

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

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

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

Choice	
0	Select an operating system to install. Windows Windows Server 2012 VMware RAID Configuration Only
	OK Cancel

9-(3)	Click 🛇	on the	right side o	of the scree	n . \rightarrow Go to	step 11.
		1 OS selectio	on Settings	3 Confirmation	4 Installation	
		1				
				ng system to ins o configure a RAID array		
		e	Automatic D	etection		\bigcirc
	•		Manual Sele	ction		
		B	Load Setting	s		
					Set	tup

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

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

		Choosing a File		×				
📄 🖃 mnt u	isr_connect							
Places	Name			ize Modified				
Places Search	Cdrom 1		¥ 3	05/08/2014				
Becently Used	Calonn			03700/2014				
🔄 root								
Z Desktop								
File System								
Documents								
Music								
Pictures								
Videos				=				
Downloads 🛅								
Add Remove								
			Cancel	I Open				
			Cancer					
			Cancer	- Open				
	Tine	For the new or			 - f ile is			
	Tips		able media in v	which the pa		saved, s	see	
	Tips		able media in v	which the pa		saved, s	see	
	Tips			which the pa		saved, s	see	
	Tips		able media in v	which the pa		saved, s	see	
	-	"/mnt/usr_cor	able media in v nnect/usb*" (*	which the pa		saved, s	see	
	-	"/mnt/usr_cor	able media in v nnect/usb*" (*	which the pa		saved, s	see	
	-		able media in v nnect/usb*" (*	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* screen.	which the pa		saved, s	see	
	-	"/mnt/usr_cor	able media in v nnect/usb*" (* screen.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* screen.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* screen.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* screen.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_con ht side of the 2 Settings 3 Confi	able media in v nnect/usb*" (* screen.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* screen.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_con ht side of the 2 Settings 3 Confi	able media in v nnect/usb*" (* Screen. mation 4 Installation	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* Screen. mation 4 Installation	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* Screen. mation 4 Installation	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* SCreen. mation 4 Installation to install.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* SCreen. mation 4 Installation to install.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* SCreen. mation 4 Installation to install.	which the pa		saved, s	see	
	on the rig	"/mnt/usr_cor	able media in v nnect/usb*" (* SCreen. mation 4 Installation to install.	which the pa		saved, s	see	

Load Settings

10-

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

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

2	2 ≞	nter installation setting	S.	
	0	Default		(
•	< 0X	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.

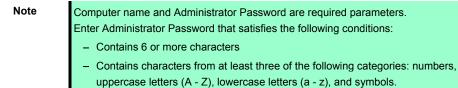
2 Enter installation settings.		1 OS selection	2 Settings	3 Confirmation	4 Installation
		2 Enter in	nstallation s	settings.	
Custom)	De	fault		
		Cu	stom		

12. Click Default.

	1 2 OS selection Settings	3 Confirmation	4 Installation
	2 Enter installation se	ettings.	
\bigcirc	Default		D [®]
	Specify minimum settings for the installation. Default values are used for other settings.		
			Setup

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

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



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 "	ter installation	settings.		
\bigcirc	~ 0	Default			\bigcirc
	3	Custom			
				Set	tup

13. Click Custom.

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

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

(1) With the **Skip Configuring RAID Array** check box cleared, click **Next**. Set up the logical drives according to the wizard.

elected.		
Device Information		
RAID Controller	: MegaRAID 945N-8i	Detail
Number of Physical Drives	: 2	
-Summary of RAID Array		
Array #1 RAIDO (2disk(s)) Logical Drive1 (278GB)		
RAID Configuration		
Skip Configuring RAID Array		
		1 / 11 Page
Next		Cancel

Important When a new logical drive is created, the existing RAID system is destructed and the contents of hard disk drive will be erased.

(2) Setting the disk array configuration and the RAID level.

SATA #00*139.2GB SATA #01*139.2GB	0	0	0
SATA #01*139.2GB 💿	0	0	
			0
RAID Level RAID1 ©			

(3) Specify the size of the logical drive by the GB unit as needed.

Array #1	Array #2	
Unused Space: 0 GB	ennere epicer.	GB
(Logical Drive#1) : System Drive	(Logical Drive#3):	
Maximum Size 139 GB	- maximum bize	GB
O Size GB	O Size	GB
(Logical Drive#2):	(Logical Drive#4):	
O Remaining Space GB	O Remaining Space	GB
O Size GB	OSize	GB
For drive capacity measurements, 1TB = 102		3 / 11 Page

The RAID level and the logical drive size varies depending on hardware configuration.

When skipping the creation of new logical drives

(1) Select the Skip Configuring RAID Array check box, and then click Next.

Un	operating system will be installed to install all RAID controllers not to be u ected.		
Г	Device Information		
	RAID Controller	;	Detail
	Number of Physical Drives	: 2	
	Summary of RAID Array		
	Array #1 RAIDO (1disk) Logical Drive1 (1117GB)		
L	RAID Configuration		<u> </u>
	Skip Configuring RAID Array		
			1 / 11 Page
-	Next		Cancel

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

Choose Install Windows using EXPRESSBUILDER, and then click Next.

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

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

Specify the settings of the Windows will be installed All data currently on an e	into the first hard disk	drive or logical drive	
Partition Settings Create a new part O Use all spac	e tion size :	40 (GB) IGB / Recommended:	*1TB=1024G8 40G8 / Maximum: 1116GB)
			5 / 11 Page
Back	Next		Cancel

Important • Partition size

Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (5.1 Before Starting Setup*).) The entire contents of the hard disk drive will be deleted.

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

User Information Computer Name BD4394570815 (Required) User Name Administrator Password Reenter Administrator Password Required) Required) (Required) (Required)	sword must be at least six characters in length egories (numbers/uppercase/lowercase/symbo	h and must contain characters fr ols).
BD4394570815 (Required) User Name : Administrator Administrator Password :(Required)		
User Name : Administrator Administrator Password :(Required)	ime : 🗹 Automatic Num	bering
Administrator Password :(Required)	BD4394570815	(Required)
Reenter Administrator Password : (Required)	Password :	
	inistrator Password :	(Required)
6 / 1		

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

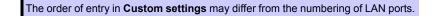
The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name.
If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Reenter Administrator password

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

Advanced
Advanced
Advanced
Advanced
7 / 11 Page

text boxes.

Tips



Note

Even when an optional network board is connected, **Custom settings** only shows standard network boards. After finishing Setup with EXPRESSBUILDER, specify the optional network settings again. 13-(6) Specify the domain or workgroup.Check the settings, modify them as needed, and then click **Next**.

Join a workgroup			
Workgroup Name	: V	/ORKGROUP	
○ Join a domain			
Domain Name	: [
Account Name	: [
Password	: [
Reenter Password	:		
			8 / 11 Page

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

Wizard Choose Windows components you want	to install.			Wizard Choose Windows components you want	to install.	
Server Roles Web Server (IIS) DHCP Server NMCP Server Windows Features Simple TCP/IP Service WWNS Server	Print and Document Services File Services Hyper-V	Advanced	C	- Server Roles	Print and Document Services Print Services Hyper-V	Advanced
		9 / 11 Page				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.

	Choose applications you want See Description about each		
	Available Applicat	ions	Selected Applications
$\langle \rangle$	- Description	Add >> << Dele	Microsoft .NET Framework Version 3.5.1
	Back	Next	10 / 11 Page Cancel

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

Wizard		
The settings are now Click Finish to close	complete. this window.	
		11 / 11 Page
		,
Back	Finish	Cancel

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

2		stallation s	iottings.	
C	Def	ault		
< Q	Cus	tom		

14. Check the parameter settings.

1 of selection 2 settings 3 confirmation 4 installation 3 Confirm installation settings. (Installation 1 installation 3 Confirm installation settings are specified) (Check if valid installation settings are specified) Skip configuring RAID array. Operating system : Windows Server 2012 (Use Windows Server 2012 (Use Windows standard installer)	ne settings	s, click S	ave.		
Genetic if valid installation settings are specified) Skip configuring RAID array. Operating system : Windows Server 2012 (Use Windows standard installer)	1 OS selection	2 Settings	3 Confirmation	4 Installation	
Genetic if valid installation settings are specified) Skip configuring RAID array. Operating system : Windows Server 2012 (Use Windows standard installer)	Confirm	installatio	n settings.		
Operating system : Windows Server 2012 (Use Windows standard installer)	≺		-		
(Use Windows standard installer)	Skip configuring RAI	D array.			
	Operating system		: Windows Server 2	2012	
Copying OEM drivers : No	(Use Windows stand	lard installer)			
	Copying OEM driver	s	: No		
		Confirm Check If vz Skip configuring RAL Operating system (Use Windows stand	1 2 OS selection 2 Settings Settings Confirm installation (Check if valid installation set) Skip configuring RAID array. Operating system (Use Windows standard installer)	Confirm installation settings. (Check if valid installation settings are specified) Skip configuring RAID array. Operating system : Windows Server 2 (Use Windows standard installer)	1 2 3 4 OS selection 2 3 4 Installation Confirmation 4 Installation Confirmation 4 Confirm installation settings. (Check if valid installation settings are specified) Skip configuring RAID array. Operating system : Windows Server 2012 Use Windows standard installer)

Click \bigcirc on the right side of the screen.

15. The setup process starts.

Click Start to continue setup.

Ready to s	set up the c	omputer.	
A partition has a If you proceed,	lready been create any data stored or	ed. I the partition will be	e lost
 Configuring 	g RAID system		
 Copying file 	es		
 Changing n 	nedia		
	Sta	+	
	Sta	n)	

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.

3 Selectio	n					
	Insert the E	XPRESSBUILDE	R disc to the driv	e. [Message ID	: J2002]	
3						
		OK	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.
3	[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.

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

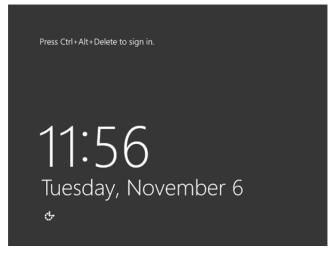
19. Read the terms of License Agreement.

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).

Pleas	e read the license terms.
	OSOFT SOFTWARE LICENSE TERMS
	OSOFT WINDOWS SERVER 2012 STANDARD
These	license terms are an agreement between you and
• th	te server manufacturer that distributes the software with the server; or
• th	te software installer that distributes the software with the server.
	e read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also to any Microsoft
· up	pdates,
. 91	upplements,
· In	ternet-based services, and
· 94	upport services
from 1	is subcave, unless other terms accompany those terms. If so, those terms apply, If you obtain apoints or supplements directly Microsoft, Microsoft, and ret the mandwhater or installer, licenses those to you. Frield paper license terms, which may come the software, take place of any on-screen license terms.
	accept the license terms for using Windows

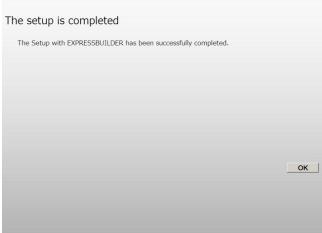
20. Press the CTRL+ALT+DEL keys to sign in.



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



21. Click OK.



- 22. See *Chapter 1 (5.5 Checking installation of EXPRESSBUILDER)* to confirm that EXPRESSBUILDER has been installed in Windows.
- 23. Follow the instructions described in Chapter 1 (5.6 Setting Up Device Drivers) to set up the device drivers.
- 24. Confirm if Windows is activated according to Chapter 1 (5.7 License Authentication).
- 25. See Chapter 1 (5.8 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 (7. 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.

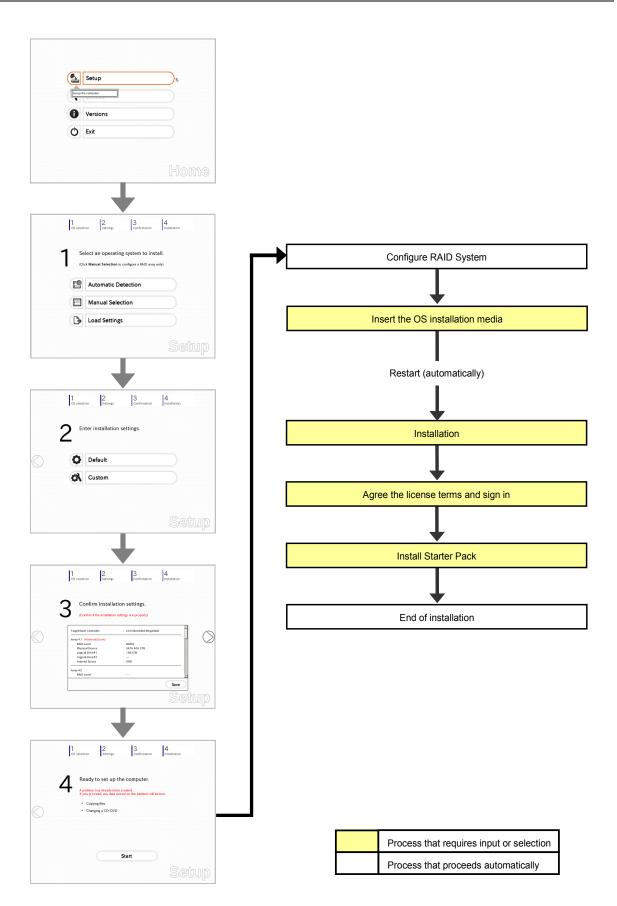
5.3 Setup with Windows Standard Installer

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

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

Important	Setup with Windows standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: - RAID settings When re-installing an OS, backing up user data is recommended.
Note	When using an onboard RAID controller (LSI Embedded MegaRAID): Do not support the creation of RAID10 by using the onboard RAID controller. Refer to <i>Chapter 2 (5. 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, refer to <i>Chapter 1 (8. 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.

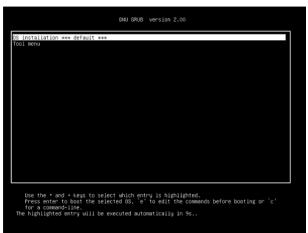
- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2012 DVD-ROM*)
- Either of the following EXPRESSBUILDER
 - Internal Flash Memory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

5.3.3 Setup procedure

Note

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

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



The following window appears.



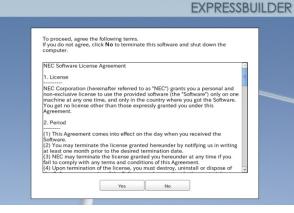
The server starts from EXPRESSBUILDER.



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



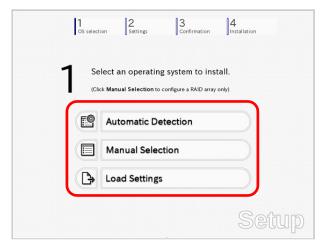
5. When the following screen appears, read the contents and click **Yes**.



6. Click Setup.

Set up	Setup	₽
0	Versions	
٥	Exit	

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



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

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

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

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

1	Select an operating system to	install
	Click Manual Selection to configure a RAID a	
	Automatic Detection	ø
Sele auto disc	ct an operating system matically with an installation	
Ŀ	Load Settings	
		Setu

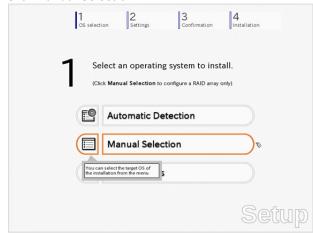
8-(2) Insert the OS installation media, and then click OK.

	Insert the OS installati EXPRESSBUILDER will	ant to install.	
		Message ID : B2014]	
0			

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

1 s	elect an operating system to in	stall.	
(C	lick Manual Selection to configure a RAID arra	ay only)	
 E 	Automatic Detection		(
	Manual Selection		
B	Load Settings		

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



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

3 Choice	
	Select an operating system to install.
	Windows Windows Server 2012
	○ VMware
	C RAID Configuration Only
	OK Cancel

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

1 Se	elect an operating	g system to inst	all.	
	ck Manual Selection to			
e	Automatic De	tection		(
•	Manual Selec	tion		
Þ	Load Settings	•		

- 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 Confirmation	4 Installation
	elect an operating system to ins	
e	Automatic Detection	
	Manual Selection	
B	Load Settings	₽
Load in	stallation settings.	Setup

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

		Choosing a File			×	
📄 💷 mnt u	isr_connect					
Places	Name		~	Size Modifie	ed 📄	
🏥 Search	🛅 cdrom 1			05/08/2	2014	
Recently Used						
🛅 root						
🔯 Desktop						
File System						
Documents						
Music						
Pictures						
Videos					=	
Downloads						
Add Remove						
			Canc		pen	
]
	Tips	For the remove	/able media	i in wh	nich t	the parameter file is saved,

"/mnt/usr_connect/usb*" (* indicates a number).

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

	elect an 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 12.

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

2 :	nter installation settings.	
0	Default	
~ Ø	Custom	

11. Click Custom.

	1 OS selection	2 Settings	3 Confirmation	4 Installation
	2 Enter i	nstallation s	settings.	
\bigcirc	De	fault		
		stom		<i>v</i>
	Specify all settin installation.	ngs for the		
				Setup

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



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

(1) With the **Skip Configuring RAID Array** check box cleared, click **Next**. Set up the logical drives according to the wizard.

Important When a new logical drive is created, the existing RAID system is destructed and the contents of hard disk drive will be erased.

(2) Setting the disk array configuration and the RAID level.

Physical Drive	Array#1	Array#2	Hot Spare	Unuse
SATA #00* 139.2GB	۲	0	0	0
SATA #01*139.2GB	۲	0	0	0
RAID Level *: Solid State Drive (SS	RAID1 0			

(3) Specify the size of the logical drive by the GB unit as needed.

Array #1		Array #2	
Unused Space:	0 GB	Unused Space:	GB
(Logical Drive#1) : System Drive		(Logical Drive#3):	
Maximum Size	139 GB	O Maximum Size	GB
O Size	GB	OSize	GB
(Logical Drive#2):		(Logical Drive#4):	
O Remaining Space	GB	O Remaining Space	GB
OSIze	GB	O Size	GB
or drive capacity measurements, 1		o/	3 / 11 Page
			Cancel



The RAID level and the logical drive size varies depending on hardware configuration.

When skipping the creation of new logical drives

(1) Select the Skip Configuring RAID Array check box, and then click Next.

Device Information		
RAID Controller		Detail
Number of Physical Drives	: 2	
- Summary of RAID Array		
Array #1 RAID0 (1disk) Logical Drive1 (1117GB)		
RAID Configuration	ray	
		1 / 11 Page

- 11-(2) Check the settings specified for **Basic Settings**.
 - Choose Use Windows standard installer, and then click Next.

Windows installation disc. Choose Install Windows us applications easily.	sing EXPRESSBUILDER to install both the operating system and
Basic Settings	
Operating system	: Windows Server 2012
Use Windows sta	indard installer
□ □ Install Windows u	sing EXPRESSBUILDER
Edition	: Standard(Server with a GUI)
Language	: English
Time Zone	: (UTC-08:00) Pacific Time (US & Canada)
	4 / 11 Page
Back	Next Cancel

On the following screen, click Finish.

Click F	tings are now cor Inish to close thi	nplete. s window.	
			11 / 11 Page
ſ	Back	Finish	Cancel

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

2	nter installation settings	•
Ø	Default	
~ 8	Custom	

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

	1 2 OS selection Settin	ngs	3 Confirmation	4 Installation	
	Confirm insta	allation se	ttings.		
•	(Check if valid insta	Illation settings	are specified)		
	Skip configuring RAID array.				(
	Operating system		Windows Server 2	012	
	(Use Windows standard install	ler)			
	Copying OEM drivers		No	_	
				Save	

13. The setup process starts.

CIICK Sta		nue setup	<i>)</i> .		
	1 OS selection	2 Settings	3 Confirmation	4 Installation	
	Ready	y to set up the	e computer.		
-	A partitio If you pr	n has already been c oceed, any data store	reated. ad on the partition will be	e lost.	
_	* Con	figuring RAID system			
\bigcirc	* Cha	nging a CD/DVD			
\bigcirc	* Inst	alling an OS			
			Start		
				Set	up
					-

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

	Insert an OS instal	llation disc fo	r installing.			-
				[Message	D : J2000]	
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.

Note

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

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

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

17. Click Next.



18. Click Install now. Windows setup starts.

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

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

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

 Click Browse and select the destination, and then click OK. Specify the displayed drive as INTER-FLASH.

\016\win\winnt\drivers\01_storage\1_al_06

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

LSI Embedded MegaRAID

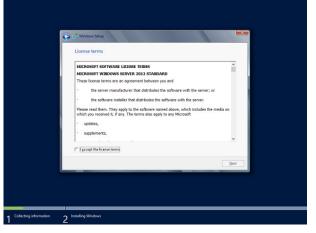
21. Type the product key, and then click **Next.** If you are using Backup DVD, this screen does not appear. Go to the next step.

	C Windows Smap Enter the product key to activate Windows the product key to activate Windows the product key to activate Windows the product key losels like this XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
	Biology Attendent Book
1 Collecting information	2 Induling Windows

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

	K Windows Setup			
	Select the operating system you want to install			
	Operating system	Architecture	Date modified	
	Windows Server 2012 Standard (Server Core Installation) Windows Server 2012 Standard (Server with a GUI)	x64 x64	7/26/2012	
	Description: This option is useful when a GUI is required—for example, to application that canned be run on a Server Core installation. A supported. You can writch to a different installation option is Option."	Il server roles and f	eatures are	
			N	ot
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.



24. Select the installation type.

Select Custom: Install Windows only (advanced) in this c
--

Which type of installation do you want?	
Upgrade: Install Windows and keep files, setting The files, settings, and applications are moved to Window available when a supported version of Windows is already	is with this option. This option is only
Custom: Install Windows only (advanced) The files, settings, and applications aren't moved to Wind make changes to particions and drives; start the compute recommend backing up your files before you continue.	lows with this option. If you want to using the installation disc. We
Help me decide	
	_

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

If you select Load Driver, the following message appears.

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

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

Onboard RAID Controller (LSI	Embedded MegaRAID) : \016\win\winnt\drivers\01_storage\1_a1_06
RAID Controller (N8103-188)	:\016\win\winnt\drivers\01_storage\1_an_02
RAID Controller (N8103-205/2	2 06/207/208/210/211): \016\win\winnt\drivers\01_storage\1_ay_01
Tips	• When using an EXPRESSBUILDER DVD, replace the DVD media in step 25 and select the optical disk drive.
	 When using an onboard RAID controller, the driver can be loaded from the EXPRESSBUILDER DVD by using USB optical disk drive.
	 If INTER-FLASH label is not displayed, reboot the server, and then perform setup again from step 15.

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

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

- RAID Controller (N8103-188): LSI MegaRAID SAS 9341-8iRAID Controller (N8103-205): MegaRAID 944N-8iRAID Controller (N8103-206/207): MegaRAID 946N-8i 2GRAID Controller (N8103-208): MegaRAID 946N-8i 4GRAID Controller (N8103-210/211): MegaRAID 945N-8i
- 28. If you inserted the EXPRESSBUILDER DVD in Step 25, remove it, and then insert the OS installation media.

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

 If you have not replaced the OS installed to this disk. (Show details)

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

29. Click New.

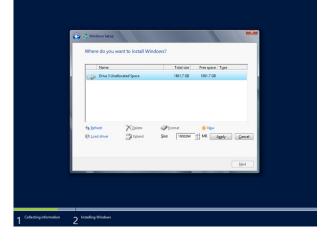
If a partition has already been created, go to step 32.

Name	inallocated Space	Total size	Free space Ty	e.
€ Befreth € Load driver	Delete	Format	+ Ngw	
				Next

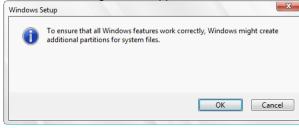


If New is not displayed on the screen, click Drive options (advanced).

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



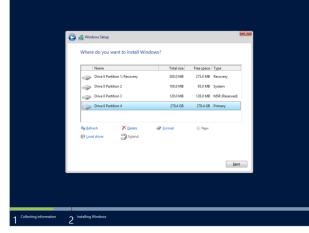
When the following window appears, click **OK**.



Tips

When creating a partition, the OS creates the following partitions at top of the hard disk drive.
Recovery Partition

- EFI System Partition (ESP)
- Microsoft Reserved Partition (MSR)
- 31. Select the partition created in step 30, and then click Format.
- 32. Select the created partition, and then click Next.

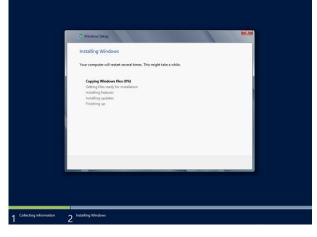


Important If the four partition types Recovery, System, MSR (Reserved), and Primary have not been created in the created partition, it means that you failed to create the partition. Delete the partition you attempted to create, and then create a new partition. If you have connected a data disk to a partition,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

Tips

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

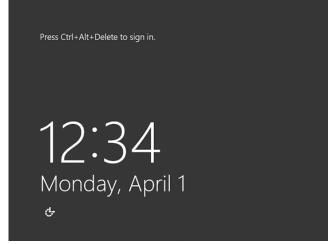
When the following message appears, Windows installation starts automatically.



33. Type a password and click Finish.

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

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

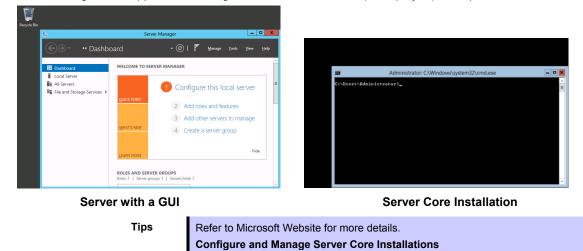


35. Type the password and press Enter.



Windows Server 2012 starts.

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



http://technet.microsoft.com/us-en/library/jj574091.aspx

37. 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 installed in Windows
- 38. See Chapter 1 (5.5 Checking installation of EXPRESSBUILDER) to confirm that EXPRESSBUILDER has been installed in Windows.
- 39. Install drivers and specify detailed settings by referring to Chapter 1 (5.6 Setting Up Device Drivers).
- 40. Confirm if Windows is activated according to Chapter 1 (5.7 License Authentication).
- 41. See Chapter 1 (5.8 Setup of Windows Server 2012 NIC Teaming (LBFO)) to setup a team as needed.
- 42. Install the applications as needed by referring to Chapter 1 (5.9 Installing the Applications).
- 43. Execute setup by following the instructions described in Chapter 1 (7. 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.
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.
- When "Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network" appears during POST, press <F3> key.

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

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



The following window appears.



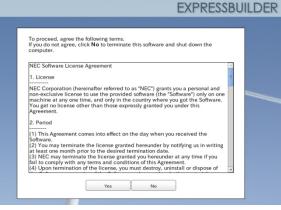
The server starts from EXPRESSBUILDER.



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



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



6. Click Utilities.

	Setup	
(4)	Utilities	Ø
Move	o Utilities Menu.	
٢	Exit	

7. Click Starter Pack Installation.

RAID Configuration Data	
File Execution	
Starter Pack Installation	k
Install Starter Pack to the installed Windows.	

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

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

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

	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]

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.

Starter Pack 🗙
Setup is going to install Starter Pack. If you install it, click [OK], if you wish to cancel it, click [Cancel]. This process disables following function. If you use the function, enable it after the reboot. + RSS(Receive-Side Scaling) + TCP Chimney Offload (ID:C202g)
OK Cancel

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

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

13. Click OK to restart the system.

Starter Pack	x
Installing Starter Pack was completed. The setup reboots for installing drivers. If the media is set in Optical Disc Drive, take it out, and click [OK]. (ID:C100x)	
ОК	

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 1* (5.5. *Checking installation of EXPRESSBUILDER*).

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

EXPRESSBUILDER	1	NEC
	Instruction Manuals	
0	Versions	
ł	Integrated Installation	
	Applications	
	Files for Setup	
٩	Maintenance	
	Exit	
		Version x.xx-xxx.xx (xxx)

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

ESSBUILDER			NEC
Integrated Installation			
		ion.	
Starter Pack			
Applications	0	No. Inc. 1	
	Rev1.22 Rev3.5E	Not installed	
Express Report Service (HTTPS)	Rev3.6	Not installed	
Microsoft .NET Framework Version 4.5.	2	Not installed	
Universal RAID Utility	Rev4.10	Not installed	
Product Info Collection Utility	Rev2.9.3	Not installed	
Ezclct Viewer	Rev2.2.0	Not installed	
NEC ExpressUpdate Agent	Rev3.18	Not installed	
		Ins	tall
	Integrated Installation Install the following software. Install Starter Pack prior to installing th Uninstall the application prior to reinst Other Starter Pack Other Pack Othe	Integrated Installation Install the following software Install Starter Pack prior to installing the application Uninstall the application prior to reinstalling the applicat G Starter Pack - Populations - NEC ESMPRO ServerAgentService Rev1.22 - Express Report Service (HTTP5) Rev3.6 - Microsoft. NET Framework Version 4.5.2 - Universal RAID Utility Rev4.10 - Product Info Collection Utility Rev2.9.3 - Exclt Viewer Rev2.3 - Exclt Viewer Rev2.3 - Collection Utility Rev2.9.3 - Colle	Integrated Installation Install the following software. Install Starter Pack prior to installing the application. Install the application prior to reinstalling the application. Install the application prior to reinstalling the application. Install Starter Pack Installed Installed Installed Installed Installed Installed Installed Inversal RAID Utily Rev1.0 Installed Inversal RAID Utily Rev2.0.3 Not installed Inversal RAID Utily Rev2.0.3 Not installed Installed Inversal RAID Utily Rev2.0.3 Not installed Installed Inversal RAID Utily Rev2.0.3 Not installed Inversal RAID Utily Rev2.0.3 Not installed Inversal Viewer Rev2.2.0 Not installed Inversal Viewer Rev2.2.0 Not installed Inversal Viewer Rev2.2.0 Not installed Inversal Viewer Inversal Integrate I

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 installed in Windows

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

Installation from Windows (Server with a GUI)

- 1. Sign-in to the system with the administrator account.
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. See Step 3 and the subsequent steps in *Chapter 1 (5.4.2 Installing Starter Pack using Windows Application)* for further procedure.

Installation from Windows (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:\016\win\winnt\bin C:\Users\administrator>cd /d D:\016\win\winnt\bin
- 2. Enter the following, and then press the <Enter> key.

```
Pkgsetup.vbs
```

D:\016\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) Server with a GUI

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

The following scre	en is displayed.	
EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
	Integrated Installation	
	Applications	
	Files for Setup	
٩	Maintenance	
	Exit	
		Version x.xx-xxx.xx (xxx)

2. Click "Exit" to quit the menu.

Check is now complete.

(2) Server Core Installation

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

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

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

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

Wait for a while until the command is completed.

eb_cli.exe 'load /repository'

Check is now complete.

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

(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 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

(2) Optional LAN board

This server supports the following optional LAN boards.

N8104-149/150/151/152/157

The LAN drivers of N8104-149/150/151/152/157 are installed automatically by Windows Plug-and-Play.

IP address.

As for N8104-149/157, however, if the LAN board is not equipped with the server at the time when the Starter Pack is being applied or setup with EXPRESSBUILDER, appropriate drivers will not be installed automatically if you additionally equip the LAN board.

In that case, install the LAN drivers by the following steps.

Note

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\016\win\winnt\drivers
\02 network\1 as 02\install ws2012.bat
```

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

\016\win\winnt\drivers\02 network\1 as 02\install ws2012.bat

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

QLOGIC Driver Installation Completed!

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

Setup is now completed.

N8104-157

Note

When Intel(R) Network Connections xx.xx.xx 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\016\win\winnt\drivers \02_network\1_ag_02\install_ws2012.bat

If using EXPRESSBUILDER, run the following file.

\016\win\winnt\drivers\02_network\1_ag_02\install_ws2012.bat

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

Intel Driver Installation Completed!

 When LAN board is new addition, configure 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.

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)

[N8104-157] : Intel(R) Ethernet Controller X550 #xx (*1)

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

Tips

The ID for N8104-149 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

5.6.2 Setting up LAN drivers

(1) Setting link speed

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

Tips

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

1. Open the **Device Manager**.

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

The link speed setting is now complete.

(2) Configuring Flow Control

Flow Control is a feature to stop transmitting frames temporarily by sending a pause frame to the destination device when the receive buffer is about to run out.

When it receives a pause frame, it regulates the transmission.

Configure the Flow Control following the procedure below.

Tips

The settings of Transmit/Receive of the network adapter should match those of the destination device. For example, if Flow Control in the destination device is set as Receive only, that in the server should be set as Transmit only.

- 1. Open the **Device Manager**.
- 2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to configure. The properties of the network adapter will be displayed.
- 3. Open Advanced tab and click Flow Control to show Value.
- 4. The Value can be changed by the down-arrow button.
- 5. Click OK.
- 6. Restart the system.

The Flow Control setting is now complete.

(3) When using N8104-150/151/152

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

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

C:\Program Files(x86)\EXPRESSBUILDER\repository\016\win\winnt \drivers\02 network\1 ah 02\pgdyavd disable.vbs

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

\016\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 Graphics accelerator driver

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

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

To 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\016\win\winnt\drivers
 \03 graphics\1 aj 05\install.bat
 - When using EXPRESSBUILDER DVD: \016\win\winnt\drivers\03_graphics\1_aj_05\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.

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

The driver for SAS controller N8103-142/184 is automatically installed by Windows Plug-and-Play. Drivers customized for this server is installed by applying the Starter Pack.

5.6.5 When using a RAID Controller (N8103-176/177/178/179/205/206/207/208/210/211)

The driver for RAID Controller N8103-176/177/178/179/205/206/207/208/210/211 is automatically installed by Windows Plug-and-Play.

Drivers customized for this server is installed by applying the Starter Pack.

5.6.6 When using a Fibre Channel controller (N8190-159/160)

The driver for Fibre Channel controller N8190-159/160 is automatically installed by Windows Plug-and-Play. Drivers customized for this server is installed by applying the Starter Pack.

However, if you additionally equip a Fibre Channel controller (N8190-159/160), right click on following file, and select Run as Administrator.

C:\Program Files(x86)\EXPRESSBUILDER\repository\016\win\winnt\drivers\01_storage \1_ao_02\utl\cli_inst.bat

If using EXPRESSBUILDER DVD (option), run the following file on the DVD. \016\win\winnt\drivers\01_storage\1_ao_02\utl\cli_inst.bat

5.6.7 When using a Fibre Channel controller (N8190-161/162)

The driver for Fibre Channel controller N8190-161/162 is installed by applying the Starter Pack.

However, if you additionally equip a Fibre Channel controller (N8190-161/162), right click on following file, and select Run as Administrator.

C:\Program Files(x86)\EXPRESSBUILDER\repository\016\win\winnt\drivers\01_storage \1_au_02\utl\cli_inst.bat

If using EXPRESSBUILDER DVD (option), run the following file on the DVD. \016\win\winnt\drivers\01_storage\1_au_02\utl\cli_inst.bat

5.7 License Authentication

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

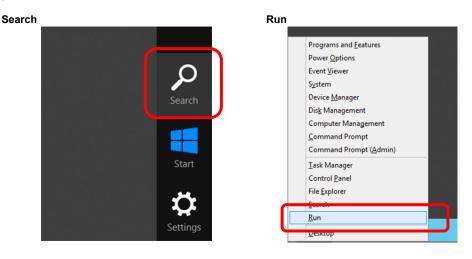
Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

Connect to the Internet to perform the authentication procedure.

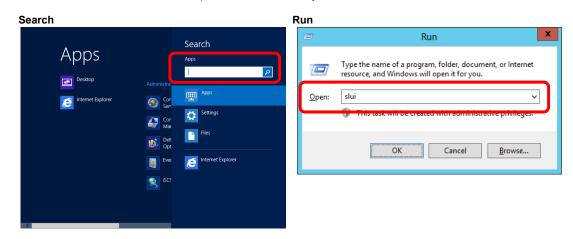
Or, use the telephone to perform the authentication procedure.

(1) Server with a GUI

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



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



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

٣	Windows Activation			- 0	x
🔄 🕘 = 🛧 🚩 🕨 Contr	ol Panel + System and Security + Action Center + Windows Activation	v C	Search Control Pan	el	P
2	Windows isn't activated Windows can't be extivated right now. Try extivating Windows later. If this issue pensists, contact Microsoft Agentration activate Windows.	Customer	Service and		
	Current edition Windows Server 2012 Standard Current product tay *****-CD699				
	Contact Microsoft Customer Service and Support online What is a product key?				
	Read the Microsoft Software License Terms Activation details		\odot		
				Can	cel

Tips

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

Windows activation is now complete.

(2) Server Core installation

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

C:\Users\administrator>slmgr -dli

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

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

2. Change the product key.

When using Backup DVD:

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

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

When using Windows Server 2012 DVD-ROM:

You do not need to change the product key.

Go to the next step.

3. Perform license authentication.

When connected to the Internet:

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

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

This completes authentication.

When not connected to the Internet:

Use telephone for license authentication.

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

C:\Users\administrator>slmgr -dti

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

Call Microsoft Licensing Center and tell them your Install ID.

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

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

This completes authentication.

5.8 Setup of Windows Server 2012 NIC Teaming (LBFO)

Set up the network adapter teaming feature as shown below.

(1) Launching the NIC teaming setup tool

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

The NIC teaming setup tool will launch.

Tips

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

(2) Creating a team

Create a team by using the NIC teaming setup tool.

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

Teaming mode

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

Load balancing mode

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

Standby adapter

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

Setting all adapters to active mode is also possible.

Primary team interface

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

(3) Notes and restrictions

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

Refer to the following website for the latest information.

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

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 on the server with a GUI*.

- 1. Sign-in to the system with the built-in administrator, which has administrative privileges.
- Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen. Or, Insert the EXPRESSBUILDER DVD (option) into the optical disk drive. Or, if EXPRESSBUILDER has been installed in Windows, you can use it as a Windows application.

Select **NEC** from Windows Start menu to launch **NEC EXPRESSBUILDER**.

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

EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files for Setup	
٩	Maintenance	
	Exit	
		Version x.xx-xxx.xx (xxx)

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.

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

Note

• Applications available for installation are selected by default.

• If your system environment does not satisfy the prerequisite for an application, you cannot install it. (For details, refer to the on-screen information and *Chapter 2 Installing Bundled Software.*)

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

Now installation of applications is completed.

5.10 Installation When Multiple Logical Drives Exist

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

(1) Installation process

- Setup with EXPRESSBUILDER
 - Important
 Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not used for setup, if the server has two or more RAID Controllers installed.
 Disconnect an external disk (*) from the server by turning the power of it off or disconnecting cables. Install those hard disk drives and cables after setup has completed. Conducting setup with those being connected with the server may cause existing data to be erased unintentionally.
 - * Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit

Refer to Chapter 1 (5.2 Setup with EXPRESSBUILDER), and proceed with setup.

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

- Setup with Windows standard installer
 - 1. Refer to Chapter 1 (5.3 Setup with Windows Standard Installer), and start setup.
 - 2. When the following message appears, select the partition to which you want to install the operating system.

Select the location to which Windows will be installed

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

Important • For details, refer to the following Microsoft website:

- http://support.microsoft.com/kb/937251/en-us
- You cannot edit the drive letters for the system volume or boot volume after setup is complete. Make sure that the drive letters assigned in this window are correct, and then proceed with setup.
- 3. Refer to *Chapter 1 (5.3 Setup with Windows Standard Installer*), and proceed to setup Windows with Windows standard installer and the instructions.

Tips

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

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume.

- 1. Right-click the left bottom of screen, and click Computer Management.
- 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 paths**.
- 4. Click **Change** and **Assign the following drive letter**, and then select the drive letter you want to assign.
- 5. Click OK.
- 6. Close the Server Manager.

6. Setting Up Windows Server 2008 R2

Set up Windows Server 2008 R2.

6.1 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	BIOS setting			
-	OS	Change Boot Mode to Legacy Mode. See Chapter 2 (1. System BIOS) in Maintenance Guide for details. Boot \rightarrow Boot Mode \rightarrow Legacy		
		Select Disabled for X2APIC feature of processor. See Chapter 2 (1. System BIOS) in		
-	OS	Maintenance Guide for details.		
		Advanced $ ightarrow$ Processor Configuration $ ightarrow$ X2APIC $ ightarrow$ Disabled		
		Select Disabled for XHCI Hand-off. See <i>Chapter 2 (1. System BIOS)</i> in Maintenance Guide for details.		
-	OS	Advanced \rightarrow USB Configuration \rightarrow XHCI Hand-off \rightarrow Disabled		
		Select Enabled for XHCI Hand-off after Starter Pack installed.		
Hard	Hardware configuration			
		The following hardware configurations require special procedures.		
		Reinstalling to a mirrored volume		
		When you install Windows Server 2008 R2 in an environment with a mirrored volume created		
-	OS	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.		
-	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.		
-	OS	DAT, LTO, or similar media Do not set any media such as DAT or LTO while installing an OS.		

		Installing in internal or external multiple (logical drives)
		For details on installing operating systems to a system in which two or more RAID Controller exist,
-	OS	or to an external disk drive* that is not subject to setup, refer to Chapter 1 (6.9 Installation When
		Multiple Logical Drives Exist).
		* Disk array unit (such as iStorage) or hard disk drive in Disk Expansion Unit.
		Reinstalling to hard disk drives that have been upgraded to dynamic disks
-	OS	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.
_	OS	Setup when mass memory is installed
		If mass memory is installed in your system, the large size of paging file is required at installation.
		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 (7. 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
		→ The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.

 C: Paging file whose size is smaller than the installed memory size + 300 MB" of → The paging file in drive C is used for collecting memory dum collection may fail because the size of the paging file is smaller the installed memory size. Example of incorrect setting 2 C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size + 300 but collection may fail because only the paging file in drive C is u collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" o (in dynamic volume) → Paging files in a dynamic volume cannot be used for collecting memory dume. 	np, bunnan th
 collection may fail because the size of the paging file is smaller the installed memory size. Example of incorrect setting 2 C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size + 30 but collection may fail because only the paging file in drive C is u collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" o (in dynamic volume) 	00 MB
 C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size + 30 but collection may fail because only the paging file in drive C is u collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" o (in dynamic volume) 	
 D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is 300 MB → The total paging file size in all drives is "installed memory size + 30 but collection may fail because only the paging file in drive C is u collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" o (in dynamic volume) 	
but collection may fail because only the paging file in drive C is u collecting memory dump. Example of incorrect setting 3 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" o (in dynamic volume)	
C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" o (in dynamic volume)	
D: Paging file whose size is "installed memory size + 300 MB" o (in dynamic volume)	
ightarrow Paging files in a dynamic volume cannot be used for collecting n	r mor
dump. Thus, collecting memory dump fails.	nemor
eate the registry shown below by using the Registry Editor and specify dicated Dump File. When specifying the file named "dedicateddumpfile.sys" in drive D>	, the i
	7
Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl	
Name: DedicatedDumpFile	
Type: REG_SZ Data: D:\dedicateddumpfile.sys	
Pay strict attention to edit the registry.	
Pay strict attention to edit the registry.The setting is applied after restarting the system.	
 Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 300" 	MB" o
• The setting is applied after restarting the system.	
 Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 300 Dedicated Dump File cannot be placed in dynamic volumes. 	
 Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 300 Dedicated Dump File cannot be placed in dynamic volumes. To collect memory dump by using Dedicated Dump File, a paging file 	le is re

Paging t Dump fii Applicat Server Cor Size rec Paging t Dump fi Applicat	uired to install the OS ile size (recommended) e size ion size e installations uired to install the OS ile size (recommended) e size	 = 15,600 MB (Windows Server 2008 R2 + Service Pack = 8,400 MB (Windows Server 2008 R2 with Service Pace) = installed memory size × 1.5 = installed memory size + 300MB = as required by the application = 11,100 MB (Windows Server 2008 R2 + Service Pack 1) = 3,700 MB (Windows Server 2008 R2 with Service Pace) = installed memory size × 1.5 = installed memory size + 300MB
Size req Paging t Dump fi Applicat Server Cor Size req Paging t Dump fi Applicat For example, installations is	uired to install the OS ile size (recommended) e size ion size e installations uired to install the OS ile size (recommended) e size	 (Windows Server 2008 R2 + Service Pack 8,400 MB (Windows Server 2008 R2 with Service Pack installed memory size × 1.5 installed memory size + 300MB as required by the application = 11,100 MB (Windows Server 2008 R2 + Service Pack 1) 3,700 MB (Windows Server 2008 R2 with Service Pack installed memory size × 1.5
Paging t Dump fil Applicat Server Cor Size rec Paging t Dump fi Applicat	ile size (recommended) e size ion size e installations uired to install the OS ile size (recommended) e size	 (Windows Server 2008 R2 + Service Pack 8,400 MB (Windows Server 2008 R2 with Service Pack installed memory size × 1.5 installed memory size + 300MB as required by the application = 11,100 MB (Windows Server 2008 R2 + Service Pack 3,700 MB (Windows Server 2008 R2 with Service Pack installed memory size × 1.5
Dump fi Applicat Server Cor Size rec Paging f Dump fi Applicat For example, installations is	e size ion size e installations uired to install the OS ile size (recommended) e size	 8,400 MB (Windows Server 2008 R2 with Service Pa installed memory size × 1.5 installed memory size + 300MB as required by the application 11,100 MB (Windows Server 2008 R2 + Service Pack = 3,700 MB (Windows Server 2008 R2 with Service Pack = installed memory size × 1.5
Dump fi Applicat Server Cor Size rec Paging f Dump fi Applicat For example, installations is	e size ion size e installations uired to install the OS ile size (recommended) e size	 installed memory size × 1.5 installed memory size + 300MB as required by the application 11,100 MB (Windows Server 2008 R2 + Service Pack 3,700 MB (Windows Server 2008 R2 with Service Pack
Dump fi Applicat Server Cor Size rec Paging f Dump fi Applicat For example, installations is	e size ion size e installations uired to install the OS ile size (recommended) e size	 installed memory size + 300MB as required by the application 11,100 MB (Windows Server 2008 R2 + Service Pack 3,700 MB (Windows Server 2008 R2 with Service Pack installed memory size × 1.5
Applicat Server Cor Size req Paging t Dump fi Applicat For example, installations is	ion size e installations uired to install the OS ile size (recommended) e size	 = as required by the application = 11,100 MB (Windows Server 2008 R2 + Service Pack = 3,700 MB (Windows Server 2008 R2 with Service Pack = installed memory size × 1.5
Server Cor Size req Paging t Dump fi Applicat For example, installations is	e installations uired to install the OS ile size (recommended) e size	 = 11,100 MB (Windows Server 2008 R2 + Service Pack = 3,700 MB (Windows Server 2008 R2 with Service Pace) = installed memory size × 1.5
Size req Paging t Dump fi Applicat For example, installations is	uired to install the OS ile size (recommended) e size	 (Windows Server 2008 R2 + Service Pack 3,700 MB (Windows Server 2008 R2 with Service Pack installed memory size × 1.5
Paging f Dump fi Applicat For example, installation s is	ile size (recommended) e size	 (Windows Server 2008 R2 + Service Pack 3,700 MB (Windows Server 2008 R2 with Service Pack installed memory size × 1.5
Dump fi Applicat For example, installations is	e size	 3,700 MB (Windows Server 2008 R2 with Service Page) installed memory size × 1.5
Dump fi Applicat For example, installation s is	e size	(Windows Server 2008 R2 with Service Par = installed memory size × 1.5
Dump fi Applicat For example, installation s is	e size	= installed memory size \times 1.5
Dump fi Applicat For example, installation s is	e size	-
Applicat For example, installations is		
installations is		= as required by the application
installation s is		
	-	e is 1 GB (1,024 MB), application size is 100MB, a
8,000 ME	s selected, the partition size	e is calculated as follows:
	ne partition size is sufficient partition sizes are recomm	
Full i	nstallations	: 32,768MB (32GB) or more
Serve	er Core installations	: 10,240MB (10GB) or more
*1 GE	8 = 1,024 MB	
	information (dump file). T must be large enough to Make sure you set a suff insufficient, there will be inability to collect correct Regardless of the sizes of maximum size of the dur	icient paging file size. If the paging file is a virtual memory shortage that may result in an debug information. of internal memory and write debug information, th np file is "size of internal memory + 300 MB". plications or other items, add the amount of space

	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. Image: the transformation of t
Hyper-V 2.	0 support
- OS	Refer to the following web site for information related to Hyper-V 2.0. <u>http://www.58support.nec.co.jp/global/download/w2k8r2/hyper-v/hyper-v-v2.html</u> ocker If using BitLocker, note the following. • Be sure to keep the recovery password secure. Do not keep it near a server running
- 08	BitLocker. Important If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any more. The recovery password might be required at startup of the OS after the following: - Replacement of motherboard - 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.
	 To reinstall the operating system into a partition that is encrypted with BitLocker, delete the BitLocker-encrypted partition prior to reinstallation. Microsoft releases software updates for BitLocker encryption. If using BitLocker, it is important that you read through the information provided by Microsoft. Also read through the checklist published by Microsoft. For details, visit <u>http://support.microsoft.com/kb/975496/en-us.</u>

Installing	ervice Pack
- 08 License a	 Install the Service Pack before you apply the Starter Pack. 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. thentication
- 05	 License authentication is required depending on the installation of Windows. For details, refer to <i>6.7 License Authentication</i>. Note Activate within 30 days following installation. A virtual product key is used when installing in a virtual environment. It is not used when directly installing an operating system to a physical server.

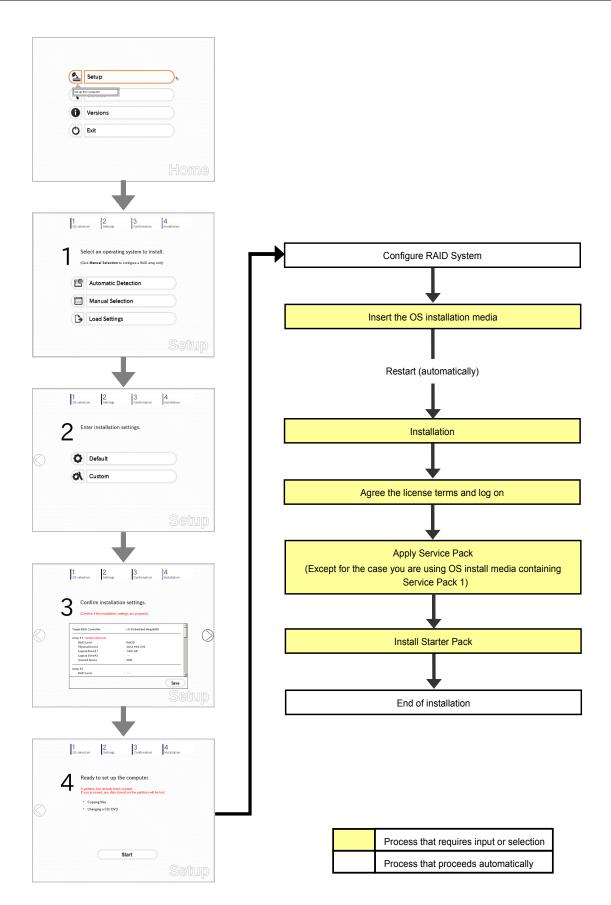
6.2 Setup with Windows Standard Installer

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

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

Important	 Setup with OS standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: RAID settings When re-installing windows, backing up user data, is recommended.
	 Precautions for installation are as follows: Use EXPRESSBUILDER DVD (optional or on web site). Cannot use EXPRESSBUILDER on Internal Flash memory (F3 key function). Use an internal optical disk drive on the server when installing. Cannot use a USB interface drive and remote media feature of EXPRESSSCOPE Engine 3. Use a display, mouse, keyboard, and other devices connected directly to the server. Cannot use the remote KVM feature of EXPRESSSCOPE Engine 3 Change BIOS setting before starting setup, while referring to <i>Chapter 1</i> (6.1 Before Starting Setup).
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, refer to <i>Chapter 1 (8. Windows OS Parameter File)</i>.

6.2.1 Setup flow



6.2.2 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)
 - Service Pack

 (If the OS installation media contains Service Pack 1, you do not need to apply the service pack again. 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)
- The following EXPRESSBUILDER
 - EXPRESSBUILDER DVD (option)
- Prepare if needed:
 - First Steps Guide
 - Removable media for Windows OS parameter file

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

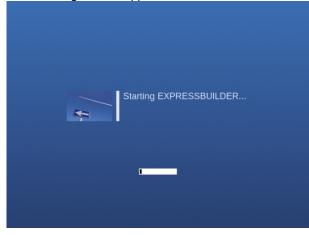
6.2.3 Setup procedure

Note Read through the items in *Chapter 1* (6.1 *Before Starting Setup*) prior to installing Windows.

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

Boot selection				
OS installation and default and				
Tool menu (Normal mode) Tool menu (Redirection mode)				
Automatic boot in 10 seconds				

The following window appears.



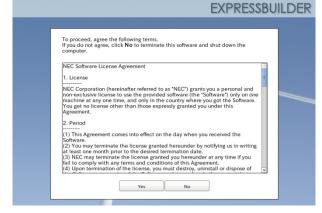
The server starts from EXPRESSBUILDER.



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



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



6. Click Setup.

	Setup	₽
l set up	Versions	
٢	Exit	

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

1 2 3 selection 3 Installation	
Select an operating system to install. (Click Manual Selection to configure a RAID array only)	
Automatic Detection	
Manual Selection	
Load Settings	
Setup	
U When not using a parameter file : Select Automatic Detect	
∴ Select Manual Selection □ When <i>using</i> a parameter file ∴ Select Load Settings , a	•

- When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.
- 8. When *not using* a parameter file, let the OS on the installation media be recognized by using the following procedure.
 - 8-(1) Click Automatic Detection.

Note

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

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

Inse	rt the OS installation d	isc.		
EXP	RESSBUILDER will dete			
		[1	Message ID : B2014	-1
2				

- 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 Confi	rmation Installation
1	Select an operating system (Click Manual Selection to configure a f	
	Automatic Detection	
	Manual Selection	Ŵ
	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 operatin	g system to install.	
	Windows	Windows Server 2008 R2 0	
	O RAID Configu	ration Only	
?			

9-

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

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

1 OS sele	tion Settings	3 Confirmation	4 Installation
	elect an operating : lick Manual Selection to co		
	Automatic Dete		
	Manual Selecti	on	
B	Load Settings		₽
Load	installation settings.		Setup

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

mnt usr_conn	art	
Name	✓ Size	Modified
🖞 Search 🛅 cơn		05/08/2014
Recently Used		
3 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.

	elect an operating system to install.
(CI	ck Manual Selection to configure a RAID array only)
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	tion 2 Settings	3 Confirmation	4 Installation	
	2 -	nter installation :	settings.		
\bigcirc	0	Default			\bigcirc
	~ Ø	Custom			
				Set	tup

11. Click Custom.

	1 2 3 CS selection Settings 3 Con	firmation Allistallation
	2 Enter installation settings	
\bigcirc	Default	
	Custom	₽
	Specify all settings for the installation.	
		Setup

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

When creating new logical drives

(1) With the **Skip Configuring RAID Array** check box cleared, click **Next**. Set up the logical drives according to the wizard.

Important When a new logical drive is created, the existing RAID system is destructed and the contents of hard disk drive will be erased.

(2) Setting the disk array configuration and the RAID level.

SATA #00* 139.2GB	-			
	۲	0	0	0
SATA #01*139.2GB	۲	0	0	0
RAID Level	RAID1 0			

(3) Specify the size of the logical drive by the GB unit as needed.

to two logical drives per RA	ID array can be crea	ated with this wizard.	
Array #1		Array #2	
Unused Space:	0 GB	Unused Space:	GE
(Logical Drive#1) : System	n Drive	(Logical Drive#3):	
Maximum Size	139 GB	O Maximum Size	GE
O Size	GB	OSIze	GE
(Logical Drive#2):		(Logical Drive#4):	
O Remaining Space	GB	O Remaining Space	GE
O Size	GB	○ Size	GE
For drive capacity measurem	ents, 1TB = 1024 g	igabytes.	3 / 11 Page

Note

The RAID level and the logical drive size varies depending on hardware configuration.

When skipping the creation of new logical drives

(1) Select the Skip Configuring RAID Array check box, and then click Next.

Device Information			
RAID Controller		:	Detail
Number of Physical Drive	5	: 2	
-Summary of RAID Array-			
Array #1 RAID0 (1disk) Logical Drive1 (1117GB)		
A			~
RAID Configuration			
Skip Configuring RAID	Array		
			1 / 11 Page

11-(2) Check the settings specified for **Basic Settings**. Choose **Use Windows standard installer**, and then click **Next**.

Operating system : Windows Server 2008 R2 Use Windows standard installer	
Install Windows using EXPRESSBUILDER	
Edition : Standard(Server with a GUI)	
Language : English 0 Time Zone : (UTC-08:00) Pacific Time (US & Canada) 0	
Time Zone : ((UTC-08:00) Pacific Time (US & Canada) (~)	

When the following screen appears, click Finish.

The settings are now comp Click Finish to close this	olete. vindow.	
		11 / 11 Page
Back	Finish	Cancel

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

1 OS selectio	n Settings	3 Confirmation	4 Installation	
2 Ent	er installation s	ettings.		
0	Default			
~ 61	Custom			

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

	1 OS selection Settings	3 Confirmation	4 Installation	
4	Confirm installation	n settings.		
•	(Check if valid installation se	ttings are specified)		7
)	Skip configuring RAID array.			
	Operating system	: Windows Server 200	18 R2	
	(Use Windows standard installer)			
	Copying OEM drivers	: No		
			Save	

Click \bigcirc on the right side of the screen.

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

CIICK Start		iue setup	'.		
	1 OS selection	2 Settings	3 Confirmation	4 Installation	
4		to set up the	· · · · · · · · · · · · · · · · · · ·		
	A partition If you pro	has already been c ceed, any data store	reated. Id on the partition will be	e lost.	
-	* Confi	guring RAID system			
$\langle \rangle$	* Chan	ging a CD/DVD			
\bigcirc	* Instal	ling an OS			
			itart		
				Sei	tup
	* Confi * Chan	guring RAID system ging a CD/DVD ling an OS			tup

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

Insert an OS inst	allation disc for in	ge ID : J2000]
0		

15. The server reboots automatically.

16. Run from the OS installation media.

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

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

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

This step is unnecessary if no operating system is installed.

17. Click Next at default settings.



18. Click Install Now ジ.



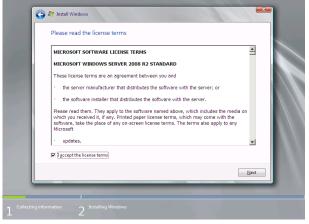
19. Select the edition of the Windows you are going to install and the installation method.

Operating system	Architecture	Date modified
Windows Server 2008 R2 Standard (Full Installation)	x64	7/14/2009
Windows Server 2008 R2 Standard (Server Core Installation)		7/14/2009
Windows Server 2008 R2 Enterprise (Full Installation)	x64	7/14/2009 7/14/2009
Windows Server 2008 R2 Enterprise (Server Core Installation) x64 x64	7/14/2009
Windows Server 2008 R2 Datacenter (Full Installation) Windows Server 2008 R2 Datacenter (Server Core Installatio		7/14/2009
Windows Server 2008 R2 Datacenter (Server Core Installatio Windows Web Server 2008 R2 (Full Installation)	n) x04 x64	7/14/2009
Windows Web Server 2008 R2 (Puri Installation) Windows Web Server 2008 R2 (Server Core Installation)	x64	7/14/2009
ser interface, and it supports all of the server roles.		

Tips

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

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



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

Which typ	pe of installation do you want?
R	Upgrade Upgrade to never version of Windows and keep your files, settings, and programs. The option to upgrade is only available when an existing version of Windows is running. We recommend backing up your files before you proceed.
V	Custom (advanced) Install a new copy of Windows. This option does not keep your files, settings, and programs. The option to make changes to disks and patitions is available when you start your computer using the installation disc. We recommend backing up your files before you proceed.
Help me de	Lide

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

When you select Load Driver, the following message appears.

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

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

N8103-176/177/178 RAID Controller : \016\win\winnt\drivers\01_storage\1_an_01 N8103-188 RAID Controller : \016\win\winnt\drivers\01_storage\1_an_01

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

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

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

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

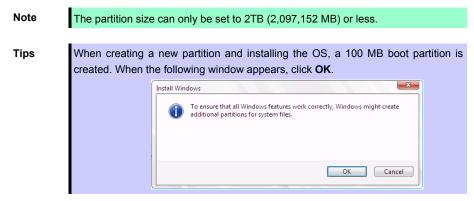


26. Select the disk in which the partition will be created, and then click **Drive options (advanced)**. If a partition has already been created, go to step 28.

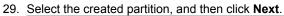
Name	Total Size	Free Space Type
Disk 0 Unallocated Space	74.5 GB	74.5 GB
€ Befresh XDelete ⊕ Load Driver ⊉ Esten		₩ Ne <u>x</u>

27. Click New.

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



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



	Name		Total Size	Free Space	Туре
6	Disk 0 Partir	tion 1: System Reserved	100.0 MB	86.0 MB	System
6	🍃 🛛 Disk 0 Parti	tion 2	39.9 GB	39.9 GB	Primary
	<u>R</u> efresh Load Driver	▶ Delete		∦ Ngw	

Tips

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

When the following message appears, Windows installation starts automatically.

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

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



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

Full installations:



Server Core installations:



Tips

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

32. Click OK.



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

Full installations:

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

and a		garadon rasks					
	Per	rform the following tasks to configure this	server			Windows Serv Standard	er 2008 R
	0.	Provide Computer Information			2	Specifying computer information	
		🔁 Activate Windows	Product ID:	Not activated			
		P Set time zone	Time Zone:	(UTC-08:00) Pacific Time (US & Canada)			
		Scorfigure networking	Local Area Connection:	Not connected			
		Provide 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	mprov	vement Program	
		Ovvrioad and install updates	Checked for Updates: Installed Updates:	Never Never			
	0	Customize This Server			?	Customizing your server	
		🙀 Add roles	Roles:	None			
		Add features	Features:	None			
		Salar Enable Remote Desktop	Remote Desktop:	Disabled			
		Configure Windows Frewall	Firewalk	Public: On			
		o not show this window at logon				Cose	

Server Core installations:

The command prompt will appear. Set the user information.

xe

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

- 34. Apply Service Pack as needed according to Chapter 1 (6.3 Applying Service Pack).
- 35. Install Starter Pack by referring to Chapter 1 (6.4 Installing Starter Pack).
- 36. See Chapter 1 (6.5 Checking installation of EXPRESSBUILDER) to confirm that EXPRESSBUILDER has been installed in Windows.
- 37. Install drivers and specify detailed settings by referring to Chapter 1 (6.6 Setting Up Device Drivers).
- 38. Confirm if Windows is activated according to Chapter 1 (6.7 License Authentication).
- 39. Install the applications as needed by referring to Chapter 1 (6.8 Installing the Applications).
- 40. Execute setup by following the instructions described in Chapter 1 (7. Setup for Solving Problems).

Setup with Windows standard installer is now complete.

Tips

6.3 Applying Service Pack

It is necessary to apply Service Pack before you install the Starter 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

6.4 Installing Starter Pack

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(6.6 Setting Up Device Drivers). Select Enabled for XHCI Hand-off after Starter Pack is installed. See Chapter 2 (1. System BIOS) in Maintenance Guide for details. Advanced → USB Configuration → XHCI Hand-off → Disabled 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. . If you install Starter Pack for the first time after you set up Windows using Standard Installer, see Chapter 1 (6.4.1 Using EXPRESSBUILDER DVD (Option)) to install Starter Pack. Tips Microsoft .NET Framework Version 3.5.1 is enabled when Starter Pack is applied in full-installation environment. • 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.

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

6.4.1 Using EXPRESSBUILDER DVD(Option)

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

Installation from Windows (Full installations)

- 1. Sign-in to the system with the administrator account.
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. Click Integrated Installation on the menu.

EXPRESSBUI	ILDER		NEC
		Instruction Manuals	
	0	Versions	
		Integrated Installation	
(Applications	
	Ľ	Files for Setup	
	٩	Maintenance	
	M	Exit	
			Version x.xx-xxx.xx (xxx)

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

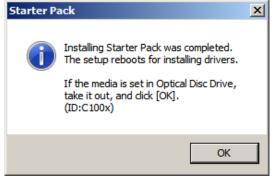
EXPRESSBUILDER				NEC
	Integrated Installation			
0	Install the following software. - Install Starter Pack prior to installing th - Uninstall the application prior to reinsta		tion.	
	Starter Pack G Applications			
	NEC ESMPRO ServerAgentService	Rev1.22	Not installed	
	Express Report Service	Rev3.5E	Not installed	
A	Express Report Service (HTTPS)	Rev3.6	Not installed	
	Microsoft .NET Framework Version 4.0.0	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				
			Ins	stall
			Ins	stall

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

Starter Pa	ack	×
?	Setup is going to install Starter Pack. If you install it, click [OK], if you wish to cancel it, click [Cance]]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot. (ID:C200g)	
	OK Cancel	

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

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



Installation of Starter Pack is now complete.

Installation from Windows (Server Core Installations)

- 1. From the command prompt, type the following command. In the example below, the optical disk drive is the D drive.
 - Cd /d D:\016\win\winnt\bin C:\Users\administrator>cd /d D:\016\win\winnt\bin
- 2. Enter the following, and then press the <Enter> key.

Pkgsetup.vbs

D:\016\win\winnt\bin>pkgsetup.vbs

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

Installation of Starter Pack is now complete.

6.4.2 Installing Starter Pack using Windows Application

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

Note

If you install Starter Pack for the first time after you set up Windows using Standard Installer, see *Chapter 1 (6.4.1 Using EXPRESSBUILDER DVD (Option)) to install Starter Pack*.

- 1. Log on to the system with the built-in administrator, which has administrative privileges.
- 2. Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen.
- 3. See Step 3 and the subsequent steps in *Chapter 1 (6.4.1 Using EXPRESSBUILDER DVD (Option))* for further procedure.

6.5 Checking installation of EXPRESSBUILDER

Confirm that EXPRESSBUILDER has been installed in Windows.

(1) Full installation

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

The following scre	een is displayed.	
EXPRESSBUILDER		NEC
	Instruction Manuals	
i	Versions	
	Integrated Installation	
	Applications	
	Files for Setup	
٩	Maintenance	
	Exit	
		Version x.xx-xxx.xx (xxx)

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.

6.6 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.

6.6.1 Installing the LAN drivers and teaming utility (BACS / QCS)

(1) LAN drivers and teaming utility

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.

N8104-149/150/151/152

The LAN drivers of N8104-149/150/151/152 are installed automatically by Windows Plug-and-Play.

As for N8104-149, however, if the LAN board is not equipped with the server at the time when the Starter Pack is being applied, appropriate drivers will not be installed automatically if you additionally equip the LAN board.

In that case, install the LAN drivers by the following steps.

- 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\016\win\winnt\drivers
\02_network\1_as_02\install_ws2008r2.bat
```

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

```
\016\win\winnt\drivers\02 network\1 as 02\install ws2008r2.bat
```

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

QLOGIC Driver Installation Completed!

3. When LAN board is new addition, configure each LAN board by referring to *Chapter 1 (6.6.2 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)

Tips

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)

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

The ID for N8104-149 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

6.6.2 Setting up LAN drivers

(1) Setting link speed

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

Tips

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

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

The link speed setting is now complete.

(2) Configuring Flow Control

Flow Control is a feature to stop transmitting frames temporarily by sending a pause frame to the destination device when the receive buffer is about to run out.

When it receives a pause frame, it regulates the transmission.

Configure the Flow Control following the procedure below.

Tips

The settings of Transmit/Receive of the network adapter should match those of the destination device. For example, if Flow Control in the destination device is set as Receive only, that in the server should be set as Transmit only.

- 1. Open the Device Manager.
- 2. Expand Network Adapters, and then double-click the name of the network adapter you want to configure. The properties of the network adapter will be displayed.
- 3. Open Advanced tab and click Flow Control to show Value.

- 4. The Value can be changed by the down-arrow button.
- 5. Click OK.
- 6. Restart the system.

The Flow Control setting is now complete.

(3) When using N8104-150/151/152

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

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

C:\Program Files(x86)\EXPRESSBUILDER\repository\016\win\winnt\drivers \02 network\1 ah 02\pgdyavd disable.vbs

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

\016\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.

6.6.3 Setting up team/LiveLink (BACS/QSC)

This section describes procedures for creating and deleting team, and for configuring LiveLink. The supported network adapters are as follows:

BACS teaming : Standard network adapters
 N8104-150/151/152

Note

- QCS teaming : N8104-149
 - For how to delete an adapter team, refer to Chapter 1 (6.6.3 Setting up team/LiveLink (BACS/QSC) (4) Procedure for deleting team).
 Check the following points when deleting an adapter team.
 - When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
 - If a team exists, delete the team first. If the team is bound to a Hyper-V virtual adapter, unbind the Hyper-V adapter before deleting the team.
 - Be sure to specify the same Jumbo Mtu (Jumbo Packet) setting to all the adapters that compose a team.
 - Do not configure the teams with adapters that use the iSCSI function.

(1) Team types

• Smart Load Balancing and Failover (without Standby Member)

All adapters that compose the team perform communication.

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

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

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

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

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

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

• FEC/GEC Generic Trunking

The combining of multiple adapters into a single channel to provide greater bandwidth. Connect the server with several physical links to make them look like a single logical link. This can improve transmission throughput and can provide redundancy.

Important 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.

Note

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.

- 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 essential.
 - LiveLink is not supported with FEC/GEC mode.

(3) Setting up team/LiveLink

Tips

To edit a team, right-click on the BACS team, and then select **Edit Team**. Then refer to step 3 and the subsequent steps to edit the team.

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

In case of **BACS**, **Broadcom Control Suite** is double-clicked. In case of **QCS**, **QLogic Control Suite** is double-clicked.

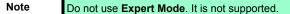
Tips

- Use icon view on Control Panel.
- 2. Set **Filter** to **TEAM VIEW**, right-click the adapter to be used for the team, and then select **Create Team** from the short-cut menu.

The Broadcom Teaming wizard appears.

Note

3. Click Next.



- 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 (LA not supported. 	CP) is
 When FEC/GEC Generic Trunking is selected, the following message appear. Confirm the settings on switching hub, and click OK. "Verify that the network switch connected to the team members is conficerrectly 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.

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

(4) Click Next.

```
Note Enable Auto
```

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 (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.
 - Note

Tips

- *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.
 If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified.
- 11. Click Next.
- 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

Note

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.

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 Delete Team from the short-cut menu.

N	0	t	e

 When the message below appears, select Yes.
"The selected team will be deleted from system, do you want
to proceed?
NOTE: Applying the changes will temporarily interrupt the
network connection. The process may take several minutes and
the connection will resume afterwards."
 When deleting team from QCS, go to step 5.

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

C:\Program Files(x86)\EXPRESSBUILDER\repository\016\win\winnt\drivers \02 network\1 ah 02\addlvlanstats.vbs

If using EXPRESSBUILDER DVD (option), run the following file on the DVD. \016\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.

6.6.4 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\016\win\winnt\drivers
 \03_graphic\1_aj_04\install.bat
 - When using EXPRESSBUILDER DVD (option): \016\win\winnt\drivers\03_graphic\1_aj_04\install.bat
- You will be prompted to confirm the End User License Agreement during this process. Click the ACCEPT button to continue.

Restart the system.

Graphic accelerator driver installation is now complete.

6.6.5 When using a SAS controller (N8103-142)

The driver for SAS controller N8103-142 is automatically installed by Windows Plug-and-Play. Drivers customized for this server is installed by applying the Starter Pack.

6.6.6 When using a RAID Controller (N8103-179)

The driver for RAID Controller N8103-179 is installed by applying the Starter Pack.

6.6.7 When using a Fibre Channel controller (N8190-159/160)

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

Drivers customized for this server is installed by applying the Starter Pack. However, if you additionally equip a Fibre Channel controller (N8190-159/160), right click on following file, and select Run as Administrator.

C:\Program Files(x86)\EXPRESSBUILDER\repository\016\win\winnt\drivers \01 storage\1 ao 01\utl\cli inst.bat

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

\016\win\winnt\drivers\01_storage\1_ao_01\utl\cli_inst.bat

6.7 License Authentication

License Authentication is required to use Windows Server 2008 R2. Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

(1) Full installation

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

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

Control Panel	 System and Security		 Search C
Control Panel Home	View basic information abo	ut your computer	
Device Manager	Windows edition		
Remote settings	Windows Server 2008 R2 St	andard	\bigcirc
Advanced system settings	Copyright © 2009 Microsoft	Corporation. All rights reserved.	
	System	Intel(R) Xeen(R) CPU E5506 @ 2.13GHz 2.13 GHz 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 setting
	Full computer name:	WIN-RO6HQKR5EQ4	
	Computer description:		
	Workgroup:	WORKGROUP	
	thorng oup!		
	Windows activation		
			ask for
	Windows activation	2000-2000	genuine
See also	Windows activation	2000-2000	

2. If Windows is installed from Backup DVD-ROM, replace the product key.

When the following window appears, click Change product key.

🕞 🗢 🛃 🔹 Control Panel 🔹	System and Security + System	•	Search Control Pa	anel
	VICH DUSIC INFORMATION ODD	ac your comparer		
Control Panel Home	Windows edition			
Device Manager	Windows Server 2008 R2 S	tandard		\bigcirc
-	Copyright © 2009 Microsof	t Corporation. All rights reserv	ed.	
Remote settings				
Advanced system settings				
	System			
	Processor:	Intel(R) Xeon(R) CPU	E5506 @ 2.13GHz 2.1	3 GHz
	1100ccasor i	analysi sconics are	C0000 @ 21100/12 211	
	Installed memory (RAM):	4.00 GB	2000 0 2000 202	
	Installed memory (RAM): System type:	., .,	2000 9210012 212	
	Installed memory (RAM):	4.00 GB		
	Installed memory (RAM): System type:	4.00 GB 64-bit Operating System No Pen or Touch Input is an		
	Installed memory (RAM): System type: Pen and Touch:	4.00 GB 64-bit Operating System No Pen or Touch Input is an		Change settings
	Installed memory (RAM): System type: Pen and Touch: Computer name, domain, and w	4.00 GB 64-bit Operating System No Pen or Touch Input is an orkgroup settings		Change settings
	Installed memory (RAM): System type: Pen and Touch: Computer name, domain, and w Computer name:	4.00 GB 64-bit Operating System No Pen or Touch Input is an orkgroup settings WIN-RO6HQKR5EQ4		@Change settings
	Installed memory (RAM): System type: Pen and Touch: Computer name, domain, and w Computer name: Full computer name:	4.00 GB 64-bit Operating System No Pen or Touch Input is an orkgroup settings WIN-RO6HQKR5EQ4		Ghange settings
See also	Installed memory (RAM): System type: Pen and Touch: Computer name, domain, and w Computer name: Full computer name: Computer description:	4.00 GB 64-bit Operating System No Pen or Touch Input is an orkgroup settings WIN-RO6HQKRSEQ4 WIN-RO6HQKRSEQ4		Change settings
See also Action Center	Installed memory (RAM): System type: Pen and Touch: Computer name; domain, and w Computer name: Full Computer name: Computer description: Workgroup:	4.00 GB 64-bit Operating System No Pene Touch Input is an orkgroup settings WIN-ROGHQR/SEQ4 WIN-ROGHQR/SEQ4 WORKGROUP	vallable for this Display	Change settings

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

0	N 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-XXXXX-XXXXX
	Where do I find my Windows product key?
	Product Key:
	What is activation? Read the privacy statement online
	Next Cancel

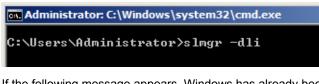
4. Follow the instructions in the following message to start the license authentication process.

🎋 Windows Activation	<u>×</u>
🚱 💫 Windows Activation	
How do you want to activate Windows?	
Use my modem to connect directly to the activation servi (recommended if you have a modem)	ce
Use the automated phone system	
What is activation?	
	Cancel

Windows activation is now complete.

(2) Server Core installation

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



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



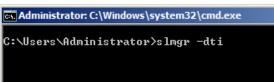
2. If Windows is installed from Backup DVD-ROM, replace the product key.

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



3. Obtain an installation ID for Windows activation.

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



4. View the following file to confirm the telephone number of the license authentication customer service.

C:\Windows\system32\sppui\phone.inf (where C: is system drive.)

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

At the command prompt, enter the following, and then press <Enter> key. *CID* is the confirmation ID that you received from customer service. slmgr -atp *CID* Administrator: G\Windows\system32\cmd.exe

©JAdministrator: C:\Windows\system32\cmd.exe C:\Users\Administrator>slngr −atp XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

Windows activation is now complete.

6.8 Installing the Applications

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

- 1. Log on to the system with the built-in administrator, which has administrative privileges.
- Click the shortcut on your desktop screen or choose NEC EXPRESSBUILDER from the Start screen. Or, Insert the EXPRESSBUILDER DVD (option) into the optical disk drive.
- 3. Click **Integrated Installation** on the menu.

EXPRESSBUILDER		NEC
	Instruction Manuals	
I	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files for Setup	
٩	Maintenance	
Bel	Exit	
		Version x.xx-xxx.xx (xxx)

4. On the following screen, select Applications option.

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

EXPRE	RESSBUILDER NI			NEC
	Integrated Installation			
	Install the following software. - Install Starter Pack prior to installing th - Uninstall the application prior to reinsta C Starter Pack		ion.	
	O Applications			
	■ 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				
			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 the relevant page of each application.)

The selected applications are automatically installed.

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

Now installation of applications is completed.

6.9 Installation When Multiple Logical Drives Exist

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

(1) Setup procedure

- Setup with Windows standard installer
 - 1. Refer to Chapter 1 (6.2 Setup with Windows Standard Installer), and start setup.
 - When the following message appears, select the partition to which you want to install the operating system.

Select the location to which Windows will be installed

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

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

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

3. Refer to Chapter 1 (6.2 Setup with Windows Standard Installer), and proceed to setup Windows with OS standard installer and the instructions.

Tips

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

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume.

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

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

8. Close the Server Manager.

Now changing drive letter is completed.

7. Setup for Solving Problems

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

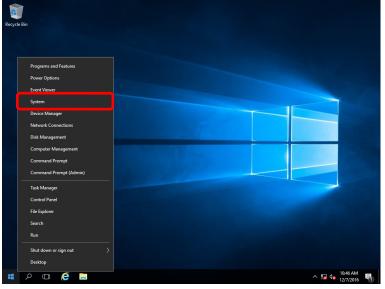
7.1 Specifying Memory Dump Settings (Debug Information)

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

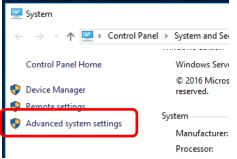
Important Do not reset during dumping memory or restarting the server even if the message of virtual memory shortage appears.

7.1.1 For Windows Server 2016

1. Right-click the left bottom of screen, and click System from the menu displayed.



2. Click Advanced system settings.



3. 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)
Environment Variables OK Cancel Apply	

4. <u>Type a file name to store the debug information in the **Dump file** text box, and then click **OK**.</u>

Startup and Recovery	\times
· · · · ·	
System startup	
Default operating system:	
Windows Server 2016 \checkmark	
✓ Time to display list of operating systems: 30 🖕 seconds	
Time to display recovery options when needed: $30 \xrightarrow{\bullet}$ seconds	
System failure	
\checkmark <u>W</u> rite an event to the system log	
Automatically <u>r</u> estart	
Write debugging information	
Automatic memory dump ~	
Dump file:	
D:\MEMORY.DMP	
Overwrite any existing file	
Disable automatic deletion of memory dumps when disk space is low	
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 "the memory capacity mounted on the server 400 MB".
- The size of the debug information (memory dump) changes if DIMM is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

5. In **Performance**, click **Settings**.

System Properties	\times
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]
User Profiles Desktop settings related to your sign-in S <u>et</u> tings	
Startup and Recovery System startup, system failure, and debugging information Settings	
Enviro <u>n</u> ment Variables	
OK Cancel Apply	

6. Click the Advanced tab on the Performance Options window.

Performance Options	×
Visual Effects Advanced Data Execution Prevention	
Select the settings you want to use for the appearance and performance of Windows on this computer.	
Let Windows choose what's best for my computer	
○ Adjust for <u>b</u> est appearance	
○ Adjust for best <u>p</u> erformance	
○ <u>C</u> ustom:	
 Animate controls and elements inside windows Animate windows when minimizing and maximizing Animations in the taskbar Enable Peek Fade or slide menus into view Fade or slide ToolTips into view Fade out menu items after clicking Save taskbar thumbnail previews Show shadows under mouse pointer Show shadows under windows Show thumbnails instead of icons Show translucent selection rectangle Show window contents while dragging 	
Slide open combo boxes	

7. In Virtual memory, click Change.

Visual Effects Advanced Data Execution Prevention Processor scheduling Choose how to allocate processor resources.
Adjust for best performance of:
○ Programs
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: 8192 MB

8. <u>Clear the Automatically manage paging file size for all drives check box, and then click Custom size.</u>

Virtual Memory	×
, .	ge paging file size for all drives
<u>Drive</u> [Volume Label]	Paging File Size (MB)
C:	System managed
	-
Selected drive: Space available:	C: 366520 MB
Output of the second	
iniciai size (MB):	
Maximum size (MB):	
O System managed siz	ze
○ <u>N</u> o paging file	Set
Tatal marine file size for	
Total paging file size for Minimum allowed:	16 MB
Recommended:	1889 MB
Currently allocated:	8192 MB
	OK Cancel

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

Virtual Memory	×
Automatically manage Paging file size for each	ge paging file size for all drives a drive
Drive [Volume Label]	Paging File Size (MB)
C:	System managed
Selected drive:	e.
Space available:	366520 MB
● <u>C</u> ustom size: Initial size (MB): Ma <u>x</u> imum size (MB):	
○ System managed site	ze
○ <u>N</u> o paging file	<u>S</u> et
Total paging file size for	r all drives
Minimum allowed:	16 MB
Recommended:	1889 MB
Currently allocated:	8192 MB
	OK Cancel

Note the following when specifying a paging file size:

- The paging file is used to collect debug information (dump file). The boot volume must have a paging file of its initial size (total capacity of physical memory mounted + 400MB or larger) is enough to store the dump file. Make sure to specify a sufficient paging file size (recommended size: (total capacity of physical memory mounted) x1.5 or more).
- See "System Partition" in Chapter 1 (3.1 Before Starting Setup) for recommended value.
- When DIMM is added, re-specify the paging file according to the increased memory size.

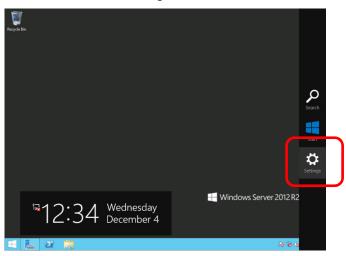
10. Click OK.

If a message to restart Windows appears, restart the system according to on-screen message.

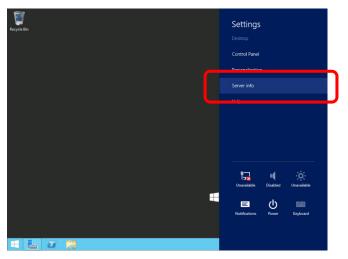
Specification of the memory dump settings is now complete.

7.1.2 For Windows Server 2012 R2 / Windows Server 2012

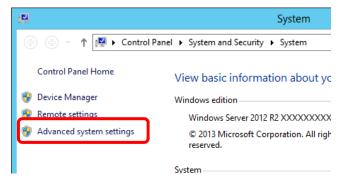
1. On Charms Bar, click Settings.



2. Click Server info.



3. Click Advanced system settings.



4. In Startup and Recovery, click Settings.

System Properties
Computer Name Hardware Advanced Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings
User Profiles
Desktop settings related to your sign-in
Settings
Startup and Recovery
System startup, system failure, and debugging information
Settings
Environment Variables
OK Cancel Apply

5. Type the path to a dump file in **Dump file**, and then click **OK**.

<Example for specifying "MEMORY.DMP" on drive D>

Startup and Recovery
System startup Default operating system: Windows Server 2012 R2 Time to display list of operating systems: Time to display recovery options when needed: 30 \$
System failure Write an event to the system log Automatically restart Write debugging information Automatic memory dump Dump file: D: MEMORY.DMP
Overwrite any existing file OK Cancel

Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump for Write debugging information.
- Specify a drive that has a free space of at least "(total size of physical memory) + 400 MB".
- The size of the debug information (memory dump) changes if DIMM is added. Make sure that the free space of the drive to save the debug information is sufficient.
- 6. In Performance, click Settings.

The **Performance Options** window will appear.

System Properties X
Computer Name Hardware Advanced Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings
User Profiles
Desktop settings related to your sign-in
S <u>e</u> ttings
Startup and Recovery
System startup, system failure, and debugging information
Seţtings
Environment Variables
OK Cancel Apply

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

Performance Options ×
Visual Effects Advanced Lata Execution Prevention
Processor scheduling Choose how to allocate processor resources.
Adjust for best performance of:
Programs O Background services
Virtual memory
A paging file is an area on the hard disk that Windows uses as if it were RAM.
Total paging file size for all drives: 4096 MB
OK Cancel Apply

8. Clear the Automatically manage paging file size for all drives check box, and then click Custom size.

Virtual Memory	x
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 System managed size O No paging file Set	
Total paging file size for all drives Minimum allowed: 16 MB Recommended: 3559 MB Currently allocated: 4096 MB OK Cance	I

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

Virtual Memory ×				
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 <u>Custom size:</u> Initial size (MB): 3559				
Ma <u>x</u> imum size (MB): 7118 System managed size <u>No paging file</u>				
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) + 400MB or more" is enough to save the dump file.
- Make sure to specify a sufficient paging file size "recommended size: (total size of physical memory) x 1.5 or more".
- See "System Partition" in Chapter 1 (Before Starting Setup) for recommended value.
- When DIMM is added, re-specify the paging file according to the increased memory size.

10. Click OK.

If a message to restart Windows appears, restart the server according to on-screen message.

Specification of the memory dump settings is now complete.

7.1.3 For Windows Server 2008 R2

1. On the Start menu, click Control Panel.

Tips

2. On the Control Panel window, click System and Security.

If View by is not Category, select System from Control Panel directly.

- 3. Click System.
- 4. Click **Advanced system settings**. The System Properties dialog box will appear.
- 5. Click the Advanced tab, and then click Settings in Startup and Recovery.
- 6. Type the path to a dump file in **Dump file**.

Note the following when specifying a dump file.

- We recommend specifying Complete memory dump for Write debugging information. If the mounted memory size is greater than 2 GB, Complete memory dump cannot be specified because it is not displayed on the menu. In this case, specify Kernel memory dump instead.
- Specify a drive that has a free space of at least "(total size of physical memory) + 300 MB".
- The size of the debug information (memory dump) changes when a DIMM is added. Make sure that the free space of the drive to store the debug information is sufficient. If the mounted memory exceeds 2GB, specify **Kernel memory dump**.
- 7. In Performance, click Settings.
- 8. Click the **Advanced** tab in the Performance Options dialog box, and click **Change** in **Virtual memory**.
- 9. Clear the Automatically manage paging file size for all drives check box, and then click Custom size.
- 10. In Paging file size for each drive, specify as follows:

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

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

After specifying the above values, click **Set**.

Note the following when specifying a paging file size.

- The initial size of the paging file in Windows partition (usually drive C) must be large enough to save dump files.
- Make sure to set a sufficient paging file size.
- For details about the recommended size, see *System partition size* in *Chapter 1 (4.1 Before Starting Setup)*.
- When DIMM is added, re-specify the paging file according to the increased memory size.
- 11. Click OK.

If a message to restart Windows appears, restart the server according to on-screen message.

Specification of the memory dump settings is now complete.

7.2 How to Create a User-mode Process Dump File

The user-mode process dump file records debugging information if an application error occurs.

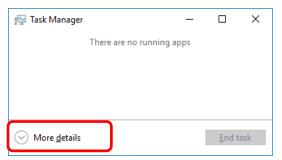
You can get a user-mode process dump file using the following procedures without closing the pop-up window that reported the error:

7.2.1 For Windows Server 2016

1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.

	1	
Recycle	Bin	
	Programs and Features	
	Power Options	
	Event Viewer	
	System	
	Device Manager	
	Network Connections	
	Disk Management	
	Computer Management	
	Command Prompt	
	Command Prompt (Admin)	
	Task Manager	
	Control Panel	
	File Explorer	
	Search	
	Run	
	Shut down or sign out	
	Desktop	
	e 🖉 🗐	10:46 AM
		12/7/2016 📆

2. Click More details.



- 3. Click the **Processes** tab.
- 4. Right-click the name of the process that you want to get dump information for, and then click

Create Dump File.

5. A dump file for the process is created in the following folder:

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

Tips	If the folder is not displayed, open Explorer, select Hidden items on the View tab.
	Image: Image
	Image: Preview pane pane Image: Extra large icons Image: Large icons
	Donae Iownit Cirrant viaw Show/hida

Get the user-mode process dump file from the folder shown in step 5.

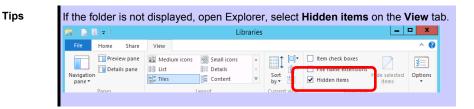
7.2.2 For Windows Server 2012 R2 / Windows Server 2012

- 1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.
- 2. Click More details.

P	Task Manager	-		x
	There are no running apps			
✓ More <u>d</u> etai	ls		<u>E</u> nd ta	sk
	<u>_</u>			

- 3. Click the **Processes** tab.
- 4. Right-click the name of the process that you want to get debugging information, and then click **Create Dump File**.
- 5. A dump file for the process is created in the following folder:

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



Get the user-mode process dump file from the folder shown in step 5.

7.2.3 For Windows Server 2008 R2

- 1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.
- 2. Click the **Processes** tab.
- 3. Right-click the name of the process that you want to get debugging information, and then click **Create Dump File**.
- A dump file for the process is created in the following folder:
 C:\Users\user name\AppData\Local\Temp

TipsIf the folder is not displayed, perform the following:Open Explorer, click Organize and then Folder and search options. Click theView 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.

7.3 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

- Download Network Monitor from the following web site: <u>http://support.microsoft.com/kb/933741/en-us</u>
- Run the downloaded file to start the installer.
 Follow the onscreen instructions to install Network Monitor.

Tips

If the Security Alert message appears, click Run. In the setup format selection window, select Complete.

Network Monitor installation is now complete.

Tips

To uninstall Network Monitor, use Programs and Features.

(2) Capturing network traces

- 1. On the Start menu, click Microsoft Network Monitor to start Network Monitor.
- 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.

8. Windows OS Parameter File

Create a parameter file by configuring setup information required for OS installation.

If a parameter file is used when performing Setup with EXPRESSBUILDER, you can re-install an OS with settings used at the previous installation. It is therefore recommended to use a parameter file to set up the server.

8.1 Creating Windows OS Parameter File

Note	Do not remove EXPRESSBUILDER DVD from the drive while creating a parameter file.
Tips	Create a parameter file on Internet Explorer 7 or later.

- 1. Start Windows on the server or another computer.
- For the server, run NEC EXPRESSBUILDER from the shortcut or the Start screen. For another computer, insert the EXPRESSBUILDER DVD into the optical disk drive. Use Windows Autorun feature to launch program.
- 3. Click Files for Setup on the menu.

EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
	Integrated Installation	
	Applications	
	Files for Setup	
(2)	Maintenance	
	Exit	
		Version x.xx-xxx.xx (xxx)

4. Click Parameter file for Windows OS.

	NEC EXPRESSBUILDER	
EXPRE	ESSBUILDER	NEC
	Files for Setup	
0		
P		-
	Parameter file for Windows OS	J
	L	

- 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
	Setup

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

Create a parameter file for Windo	ws				
	0S selection	2 Settings			
3 Choice]
Ø	Select an operatin	ng system to install. Windows Ser uration Only	ver 2016 🔍		C
		ок	Dancel		
				Set	up

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

	Create a parameter file for Windows	5 🛛 🗙
	1 2 3 OS selection Settings	nfirmation
	Select an operating system to (Choose Manual Selection when configurin	
•	Manual Selection	
	Load Settings	
		Setup

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
1 Selection Settings Confirmation
Select an operating system to install. (Choose Manual Selection when configuring a RAID array only)
Manual Selection
Load Settings
Seitup

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

	Open			x
Look <u>i</u> n: 🧊	Documents 🗸] ← 🗈	e* 💷 👈	
Name	•	Date m		Ту
sa.tre		6/11/20	14 1:34 PM	TF
<	Ш			>
File name:	*.tre		Open	
nie <u>n</u> ame.	.ue			_
Files of type:	parameter file(*.tre)	-	Cancel	

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

	Create a parameter file for Windows	×
I	1 2 3 OS selection Settings Confirmation	1
_	elect an operating system to install	
	Manual Selection	$\supset \bigcirc$
✓ 🕒	Load Settings	
		Setup

8. Specify the setup parameters by using either of the following methods:
 Default :Go to step 9
 Custom :Go to step 10.

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

9. Click Default.

	Create a parameter file for Windows
	1 Settings 3 Confirmation
	2 Enter installation settings.
\bigcirc	Default
	Custom
	Setup

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

Vitzard Specify the minimum settings to set up the computer.
lick Custom if you want to use the Windows standard installer.
Basic Sattings
Operating system : Windows Server 2016
Edition : Standard (Desktop Experience)
Language : English 🗸
Password Settings
Administrator Password : (Required)
Reenter Administrator Password : (Required)

Note

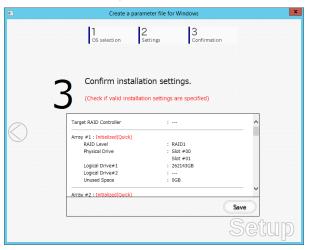
Computer name and Administrator	Password are required parameters.
Enter Administrator Password that	satisfies the following conditions:

- Contains six or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters (A - Z), lowercase letters (a - z), and symbols.

9-(2) Click \bigcirc on the right side of the screen.

	Create a parameter file for Windows
	1 Selection 2 Settings 3 Confirmation
	2 Enter installation settings.
\bigcirc	✓ Ø Default
	Custom
	Setup

9-(3) Check the settings, and then click **Save**. Save the file according to the on-screen instructions. \rightarrow Go to step 12.



10. Click Custom.

	Create a parameter file for Windows
	1 Selection Settings 3 Confirmation
	 Enter installation settings.
	2 Line installation settings.
\bigcirc	Default
	Custom
	Setun
	Setup

- 10-(1) Use this menu to configure the RAID system as needed.
 - NoteWhen using an onboard RAID controller (LSI Embedded MegaRAID):Do not support the creation of RAID10 by using the onboard RAID controller.See Chapter 2 (5. RAID System Configuration) in "Maintenance Guide" when
creating RAID10.

Creating new logical drives

 (1) Clear the Skip Configuring RAID Array check box, and then click Next. Set up the logical drives in accordance with the wizard.
 Create a parameter file for Windows

	ncrollers not to be dee	d for the US installat	on if the incorrect I	RAID controller is selected.
- Device Informat	ion			
RAID Control	ler	:		
Number of Ph	vsical Drives	: 8		
Summary of RA	ID Array			
Array #1 RAID1 (2disk(s Logical Drive1)) (262144GB)			^
Arrav #2				~
RAID Configura	ion			
Skip Con	iguring RAID Array			
				1 / 11 Page

Important When a new logical drive is created, the existing RAID array and the data of hard disk drives will be deleted.

(2) Setting the disk array configuration and the RAID level.

e set the status of phy s after the installation.	sical drives to Unused i	'you want to configure ar	other array with self	acted physica
Physical Drive	Array#1	Array#2	Hot Spare	Unused
Slot #00	۲	0	0	0
Siot #01	۲	0	0	0
Siot #02	0	۲	0	0
Skot #83	0	۲	0	0
Slot #04	0	۲	0	0
Silot #05	0	۲	0	0
Sict #85	0	0	۲	0
RAID Level	RAD1 💌	RAID10 💌		
			2	/11 Page

(3) Specify the size of the logical drive by the GB unit as needed.

Array # 0 GB Array #2 0/GB Unused Space: 0 GB Unused Space: 0/GB Indigrai Drive#2) 0/GB Unused Space: 0/GB Indigrai Drive#2) 0/GB Unused Space: 0/GB O Revening Space: GB 0/GB 0/GB Star GB 0/GB 0/GB * For drive capacity measurements, 1TB = 1024 ggstytes Star GB	ecify the size of the logical drive. ngical drive #1 will be assigned as the a to two logical drives per RAID array				
* For drive capacity measurements, 1TB = 1024 ggabytes	Unued Space: (Logical Drive#1): System Drive Maximum Sbe Size (Logical Drive#2). Remaining Space	262144 GB GB GB	Unused Space: (Logical Drive#3) Maximum Sba State (Logical Drive#4) Remaining Space	524286 GB GB GB	
3/11 Page Back Next Cancel			5		

Note

The RAID level and the logical drive size varies depending on hardware configuration.

Skipping the creation of logical drives

(1) Select Skip Configuring RAID Array, and then click Next.

L í	An operating system will be installed to the logical drive on the following RAID controller: Uninstall all RAID controllers not to be used for the CS installation if the incorrect RAID controller is selected.	
	Uninstall all KAUD controllers not to be used for the US installation in the incorrect KAUD controller is selected.	
	- Device Information-	_
	RAID Controller :	
	Number of Physical Drives : 8	
	-Summary of RAID Array	-
	Array #1 RAID(2disk(s))	
	RAIDI (2disks)) Logical Drive1 (262144GB)	
		+
	RAID Configuration	-
	Skip Configuring RAID Array	
_		_
	1 / 11 Page	
	Next Cancel	

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

	acify the minimum settings to set up the computer. :k Custom if you want to use the Windows standard installer.
OII	A Gustom in you want to use the vincows standard installer.
	Basic Settings
	Operating system : Windows Server 2016
	Edition : Standard (Desktop Experience)
	Language English
	Password Settings
	Administrator Password : (Required)
	Reenter Administrator Password : (Required)

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

Wizard Specify the settings of the system partition for Windows.		
Vindows will be installed into the first hard disk drive or logical drive. Partition Settings Create a new partition Use all space Type a partition size (Minimum:40GB / Recommended:40GB / Maximum:262143GB)		
5 / 11 Page Back Next Cancel	-	
9.EUU		

- Partition size
 Specify a partition size larger than the minimum required for installing the operating system. (See *Chapter 1 (1. Before Starting Setup).*)
 All data on the hard disk drive will be deleted.
- 10-(4) Enter user information, and then click **Next**.

]	Create a parameter file for Windows	X
Wizard		
Personalize t Type Compu Administrat from three o User Inf Comp User Admi	the computer. uter Name within 15 characters. uter Name within 15 characters. inter Password must be at least six characters in length and must contain characters of the four categories (numbers/uppercase/lowercase/symbols). formation puter Name	s
	6 / 11 Page	
E	Back Next Cancel	
	SELU	
Not	Enter Administrator Password that sa – Contains six or more characters	atisfies the following conditions: s ast three of the following categories: numbers,
Tip	If you want to assign another Comp and type your Computer Name.If a parameter file is used for setup	lame is assigned by automatic numbering. nputer Name, clear Automatic Numbering , p or if you return to a previous screen, •••••• is ssword and Reenter Administrator password

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

	Create a parameter file for Windows
	1 0 0
	🔇 Wizard
	Choose a network protocol. Choose Custom Settings , click Advanced , if you want to type an IP address.
	Network Protocols
	Standard Settings
	Custom Settings Standard Adapter - Internet Protocol (IPv4) Advanced
	7 / 11 Page
	Back Next Cancel
	JEUU
-	

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**.

 Join a workgroup Workgroup Name 	: WORKGROUP
Join a domain	. monarour
Domain Name	:
Account Name	:
Password	:
Reenter Password	:
	8 / 11 Page

10-(7) Specify the settings of Windows components as needed, and then click Next.

📧 Crea	te a parameter file for Windows		×
	Wizard		
	Choose Windows components you want to	o install.	
	Server Roles	Print and Document Services	
	DHCP Server DNS Server	□ File Server □ Hyper-V	
	Windows Features		Advanced
	Simple TCP/IP Services WINS Server		
			9 / 11 Page
	Back Next		Cancel
			Serah

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

Weard		[Wizard		10	10
Dhose applications you want to install. See Description about each application.			Choose applications you See Description about e	want to install. ach application		
Available Applications Selected Applications			Available Appl	ications		Selected Applications
NEC ESM/FRO Server AgentService Express Report Service Express Report Service Universal Report Service(HTTPS) Universal Report Service(HTTPS)					Add >>	NEC ESMPRO ServerAgentService Express Report Service
Microsoft NET Framework Version 3.5.1 NEC ExpressUpdate Agent					HOUPP	Express Report Service(HTTPS) Universal RAID Utility
<< Delete		0			<< Delete	Microsoft .NET Framework Version 3.5.1 Microsoft .NET Framework Version 4.5.2 NEC ExpressUpdate Agent
Description		\sim	Description			
10/11 Page						10 / 11 Page
Back Next Cancel			Back	Next		Cancel
(기기)(귀)(다	(0)	l				

Windows Server 2016

Windows Server 2012 R2/ Windows Server 2012

Click Finish at the following window.

	Create a parameter file for Windows			x		
		11	10			
	Wizard					
	The settings are now of Click Finish to close the	complete.				
	Click Finish to close ti	his window.				
0						
0						
					11 / 11 Page	
			1			
	Back	Finish]		Cancel	
				7	ादात्ता	

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

		Create a	parameter file for	Windows		×
		DS selection	2 Settings	3 Confirmation		
	2 "	ter installa	ation settin <u>c</u>	JS.		
\bigcirc	0	Default				\bigcirc
	~ 01	Custom				
					Sett	up

11. Check the settings, and then click **Save**.

3	Create a p	parameter file for 1	Windows	
	1 OS selection	2 Settings	3 Confirmation	
	2 Confirm insta	allation settii	ngs.	
	(Check if valid inst	allation settings a	re specified)	
	Target RAID Controller	:		^
$\langle \rangle$	Array #1 : Initialized(Quick)			-
\square	RAID Level	: RA	JD1	
	Physical Drive		ot #00	
	,		ot #01	
	Logical Drive#1	: 26	2143GB	
	Logical Drive#2	:		
	Unused Space	: 00	B	
	Array #2 : Initialized(Quick)			- ~
			<u> </u>	
			Sa	ive
			C	
			C	Sellun

12. Click OK.

•	Create a parameter file for Windows		
	1 2 3 OS selection Settings Confirmation		
	1 Information		
	Saving the file is complete. [Message ID : D1000]		
	6		
	OK		
	Sefi	qL	

13. Click **Yes** to complete parameter file creation.

•	Create a parameter file for Windows				×
		0S selection	2 Settings	3 Confirmation	
	Selection				
	0	Do you want to sto OS?	op creating a param	eter file for Windows [Message ID : D2000]	
		Ye	s No		
	L			Sett	qu

Parameter file creation is now complete.



NEC Express5800 Series Express5800/R110i-1, T110i-S, T110i

Installing Bundled Software

This chapter explains the bundled software and how to install them.

- 1. Bundled Software for the Server Describes the bundled software to be installed in the server.
- Bundled Software for "PC for Management" Describes the bundled software to be installed in "PC for Management" that is used to monitor and manage the server.

I. Bundled Software for the Server

This section explains the software bundled in the server.

I.I NEC ESMPRO ServerAgentService (for Windows)

NEC ESMPRO ServerAgentService (for Windows) is an application used to monitor the server.

You can install it automatically when Windows OS is installed with EXPRESSBUILDER.

When installing NEC ESMPRO ServerAgentService (for Windows) individually, see "NEC ESMPRO ServerAgentService Installation Guide (Windows)" in EXPRESSBUILDER.

1.2 NEC ESMPRO Agent Extension

You can manage the server remotely by using NEC ESMPRO Agent Extension with NEC ESMPRO Manager monitoring the server's BMC.

For details about NEC ESMPRO Agent Extension, see "NEC ESMPRO Agent Extension Installation Guide" in EXPRESSBUILDER.

1.3 Server Configuration Utility

You can specify configuration data to the BMC of the server by using this utility.

For details about this utility, see "Server Configuration Utility User's Guide" in EXPRESSBUILDER.

1.4 NEC ExpressUpdate Agent

You can easily download, manage and update the firmware or the software installed in this server by using NEC ExpressUpdate Agent.

For details about NEC ExpressUpdate Agent, see "NEC ExpressUpdate Agent Installation Guide" in EXPRESSBUILDER.

Tips

Updates are available for some firmware and software that do not support NEC ExpressUpdate. Refer to the following website to install these packages. http://www.nec.com/global/prod/express/index.html

1.5 Universal RAID Utility

Universal RAID Utility is an application used to manage and monitor the following RAID controllers:

- Onboard RAID Controller (LSI Embedded MegaRAID)
- N8103-176 RAID Controller (1GB, RAID 0/1)
- N8103-177 RAID Controller (1GB, RAID 0/1/5/6)
- N8103-178 RAID Controller (2GB, RAID 0/1/5/6)
- N8103-179 RAID Controller (2GB, RAID 0/1/5/6)
- N8103-188 RAID Controller (0GB, RAID 0/1)
- N8103-205 RAID Controller (0GB, RAID 0/1)
- N8103-206 RAID Controller (2GB, RAID 0/1)
- N8103-207 RAID Controller (2GB, RAID 0/1/5/6)
- N8103-208 RAID Controller (4GB, RAID 0/1/5/6)
- N8103-210 RAID Controller (2GB, RAID 0/1)
- N8103-211 RAID Controller (2GB, RAID 0/1/5/6)

For details about how to install and operate Universal RAID Utility, see "Universal RAID Utility User's Guide" on the attached EXPRESSBUILDER DVD.

If the requirements, such as the operating system, for Universal RAID Utility described in "Universal RAID Utility User's Guide" differs from the one described in the user's guide of this product, follow the requirements in the user's guide of this product.

1.5.1 Installing and setting up Universal RAID Utility

(1) Setup for BTO (Built To Order) models

If you purchased a BTO model configured with a RAID system, Universal RAID Utility is already installed. You do not need to install Universal RAID Utility for such models.

(2) Setup with EXPRESSBUILDER

When you use EXPRESSBUILDER, Universal RAID Utility can be easily installed along with Windows. Choose **Setup** in EXPRESSBUILDER and follow the displayed instructions.

(3) Setup using Universal RAID Utility installer

The Universal RAID Utility installer can be launched from the autorun menu of EXPRESSBUILDER.

Choose Integrated Installation from the autorun menu and follow the displayed instructions.

Download .**NET Framework Versions 2.0 to 3.5** from the following web site and install it when you use Universal RAID Utility on Windows Server 2012, Windows Server 2012 R2, or Windows Server 2016.

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

1.5.2 Management by NEC ESMPRO Manager

NEC ESMPRO Manager Ver. 5.5 or later is used to remotely reference and monitor the RAID system that is managed by Universal RAID Utility.

For details about NEC ESMPRO Manager, see "NEC ESMPRO Manager Installation Guide".

1.6 Express Report Service / Express Report Service (HTTPS)

To avoid system failures or to maintain the server quickly, Express Report Service / Express Report Service (HTTPS) informs the support center of the failure information, preventive maintenance information by E-Mail, modem or HTTPS. If you want to use this service, contact your sales representative and install NEC ESMPRO ServerAgentService before using this service.

You can install it automatically when Windows OS is installed with EXPRESSBUILDER.

For details about Express Report Service / Express Report Service (HTTPS), see "Express Report Service / Express Report Service (HTTPS) Installation Guide (Windows)" in EXPRESSBUILDER.

1.7 NEC Product Info Collection Utility

NEC Product Info Collection Utility can collect various logs related to the server all at once. You can collect the server information (Product Info) for maintenance by using this utility.

1.7.1 Installation

Follow the steps below to install this utility.

- Log on to Windows as an Administrator. Select NEC EXPRESSBUILDER on the Start screen or Start menu. If you have an EXPRESSBUILDER DVD, insert EXPRESSBUILDER DVD into the optical disk drive. Autorun Menu will appear automatically.
- 2. Click Applications from the menu and then click Product Info Collection Utility.

The installation will start. Follow the instructions in the dialog boxes until installation is complete. This utility is usually installed to the C:\ezclct folder.

nps

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

When installing newly by Windows Server 2016, please restart a system.
 When a updated by Windows Server 2016, the restart of a system is unnecessary.

1.7.2 Uninstallation

Uninstall the utility depending on the Windows installation type:

• Full installation (Server with GUI) :

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

• Server Core installation :

```
Run the following command at the command prompt:

Wmic product where name="Product Info Collection Utility" call uninstall
```

1.8 Ezclct Viewer

Ezclct Viewer can display the log files collected by NEC Product Info Collection Utility. This utility can be installed by using EXPRESSBUILDER as described below.

1.8.1 Installation

Follow the steps below to install this utility.

- Log on to Windows as an Administrator. Select NEC EXPRESSBUILDER on the Start screen or Start menu. If you have an EXPRESSBUILDER DVD, insert EXPRESSBUILDER DVD into the optical disk drive. Autorun Menu will appear automatically.
- Click Applications from the menu and then click Ezclct Viewer and install. The installation will start. Follow the instructions in the dialog boxes until installation is complete. This utility is installed to the C:\EzclctViewer folder.

1.8.2 Uninstallation

Choose **Programs and Features** from **Control Panel** and then click **Ezclct Viewer**. Follow the instructions in the dialog boxes.

2. Bundled Software for "PC for Management"

This section describes the bundled software required to configure "PC for Management" used to manage the server system via network.

2.1 NEC ESMPRO Manager

NEC ESMPRO Manager can remotely control and monitor the hardware and the RAID system of the server. To use these features, install the bundle software for the server such as NEC ESMPRO ServerAgentService.

For details about NEC ESMPRO Manager, see NEC ESMPRO Manager Installation Guide stored in EXPRESSBUILDER.

2.2 Express Report Service (MG)

To avoid system failures or to maintain the server quickly, Express Report Service (MG) informs the support center of the failure information or preventive maintenance information by E-Mail, modem or HTTPS.

To use this feature, NEC ESMPRO ServerAgentService is required because Express Report Service usually works with it.

If NEC ESMPRO ServerAgentService cannot be installed to the server, you can install Express Report Service (MG) into NEC ESMPRO Manager instead of it.

For details about Express Report Service (MG), see "Express Report Service (MG) Installation Guide (Windows)" in EXPRESSBUILDER.

Glossary

Term	Description
BIOS Setup Utility (SETUP)	Software for setting BIOS. You can run this software by pressing <f2> key during POST.</f2>
BMC	Baseboard Management Controller (BMC) is a built-in controller that supports the IPMI version 2.0 protocol. BMC can manage the server hardware.
BMC RESET Switch	A switch for resetting the BMC of the server. This resets the BMC without clearing the BMC settings. Use the switch if the problem on the BMC occurs.
DUMP Switch	A switch that is used for collecting the memory dump if an error occurs. You can specify the destination of the dump by using the Windows function.
EXPRESSBUILDER	Standard software for setting up the server easily. This also includes several useful applications and instruction manuals.
EXPRESSSCOPE ENGINE 3	A name of BMC for NEC Express5800 series.
EXPRESSSCOPE Profile Key	A removable flash memory that stored the settings of BIOS and BMC. If the motherboard of the server is replaced, you can use former settings when moving this flash memory from the former motherboard.
Express Report Service	Software that can report the server failure to the contact center by E-mail or modem. This software is installed with NEC ESMPRO ServerAgentService to the server.
Express Report Service (HTTPS)	Software that can report the server failure to the contact center by HTTPS. This software is installed with NEC ESMPRO ServerAgentService to the server.
Express Report Service (MG)	Software that can report the server failure to the contact center by E-mail, modem or HTTPS without NEC ESMPRO ServerAgentService. This software is installed with NEC ESMPRO Manager to "PC for Management".
ExpressUpdate	A feature for updating BIOS, firmware, driver, or software of the server. This feature is available when NEC ESMPRO Manager cooperates with EXPRESSSCOPE ENGINE 3 and ExpressUpdate Agent.
ExpressUpdate Agent	Software for performing ExpressUpdate. This is installed to the server.
Flash FDD	An optional USB device that can use as a floppy disk drive.
Internal Flash Memory	A built-in flash memory that stored EXPRESSBUILDER as standard. You can start EXPRESSBUILDER from it without DVD when pressing <f3> key during POST.</f3>
NEC ESMPRO	Standard software for the server management. This consists of several applications for managing or monitoring.
NEC ESMPRO Agent Extension	Software for performing the scheduled operations. This works with NEC ESMPRO Manager.
NEC ESMPRO Manager	Software for managing a number of 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 read or change SEL, SDR, FRU, and other IPMI data. You can start Offline tools when pressing <f4> key during POST.</f4>
PC for Management	A computer for managing the server on network. A general Windows/Linux computer can be used as "PC for Management".
Product Info Collection Utility	Software for collecting several hardware/software statuses or event logs. You can easily collect the data for the server maintenance by using this software.
RAID Configuration Utility	Software for configuring RAID arrays. You can run this software during POST.
Server Configuration Utility	Software for setting BIOS or BMC. You can use as Windows application or run this software when pressing <f4> key during POST. This software is the same as BMC Configuration of former models.</f4>
Starter Pack	Software package for the server. This software includes the customized drivers for Windows. This must be installed before using Windows on the server.
TPM Kit	An optional product of Trusted Platform Module for the server.
Universal RAID Utility	Software for setting RAID arrays on Windows/Linux. This software is operated on "PC for Management" with NEC ESMPRO Manager.
Windows OS parameter file	A file that saved settings for installing Windows. You can install with the settings in this file when setting Windows with EXPRESSBUILDER.

Revision Record

Document Number	Date Issued	Description
10.116.01-102.01	April 2017	Newly created
10.116.01-102.02	May 2018	Support new RAID controller

[MEMO]

NEC Express Server

Express5800/R110i-1, T110i-S, T110i Installation Guide (Windows)

May 2018

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