Express 5800





NEC Express Server Express5800 Series

Express5800/R120e-1E, R120e-2E EXP285A, EXP283A, EXP284A, EXP287A, EXP288A

Installation Guide (Windows)

Chapter 1 Installing Windows

Chapter 2 Installing Bundled Software

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Documents for This Product

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

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

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

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Notations Used in This Document

Notations used in the text

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

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

Optical disk drive

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

- DVD-ROM drive
- DVD Super MULTI drive

Hard disk drive

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

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

Removable media

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

- USB flash drive
- Flash FDD

Abbreviations of Operating Systems (Windows)

Windows Operating Systems are referred to as follows.

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

Notations in this document	Official names of Windows	
Windows Server 2012	Widnows Server 2012 Standard	
Windows Server 2012	Widnows Server 2012 Datacenter	
Windows Server 2008 R2	Windows Server 2008 R2 Standard	
Windows Server 2008 K2	Windows Server 2008 R2 Enterprise	
Windows Server 2008 *	Windows Server 2008 Standard	
	Windows Server 2008 Enterprise	

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

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

Windows Server 2008 x64 Windows Server 2008 x86

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CE / Australia and New Zealand Statement

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

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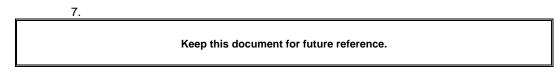


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миллионных частей; 6. полибромдифеноловые эфиры (PBDE) – не превышает 0,1 % веса вещества или вконцентрации до 1000 миллионных частей.

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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/



NEC Express5800 Series Express5800/R120e-1E, R120e-2E

Installing Windows

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

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

I. Before Starting Setup

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

I.I Starting EXPRESSBUILDER

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

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

EXPRESSBUILDER DVD

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

Internal Flash Memory (optional)

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

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

1.2 Supported Windows OS

EXPRESSBUILDER supports the following editions of Windows operating systems:

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

: Setup with Windows Standard Installer

		Supp	orted
Nam	ne of Windows OS	EB	OS
	Windows Server 2012 Standard	\checkmark	\checkmark
Windows Server 2012	Windows Server 2012 Datacenter	~	~
	Windows Server 2008 R2 Standard	\checkmark	\checkmark
Windows Server 2008 R2	Windows Server 2008 R2 Enterprise	\checkmark	\checkmark
	Windows Server 2008 Standard	\checkmark	\checkmark
Windows Server 2008	Windows Server 2008 Enterprise	~	~

✓ : Supported – : Not Supported

1.3 Supported Service Pack

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

OS installation media	Service Pack	Supported
Windows Server 2012	NO Service Pack	✓
Windows Server 2008 R2	Service Pack 1 Included	✓
	NO Service Pack + Service Pack 1	✓
	NO Service Pack	✓
	Service Pack 2 Included	✓
Windows Server 2008	NO Service Pack + Service Pack 2	✓
	NO Service Pack	✓

✓ : Supported – : Not supported

Note

You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself.

1.4 Mass Storage Controllers Supported by EXPRESSBUILDER

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

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

	Windows Server 2012	Windows Server 2008 R2	Windows Server 2008
RAID Controllers supporting OS i	nstallation by EXPRE	SSBUILDER	
Onboard RAID Controller (LSI Embedded MegaRAID)	✓	\checkmark	✓
N8103-172 RAID Controller (512MB, RAID 0/1)	\checkmark	✓	✓
N8103-173 RAID Controller (512MB, RAID 0/1/5/6)	\checkmark	✓	✓
N8103-174 RAID Controller (1GB, RAID 0/1/5/6)	✓	✓	✓
N8103-168 RAID Controller (1GB, RAID 0/1/5/6)	\checkmark	✓	\checkmark
Other options			
N8103-142 SAS Controller	\checkmark	\checkmark	\checkmark
N8103-161 RAID Controller (1GB, RAID 0/1/5/6)	\checkmark	✓	\checkmark
N8190-153 Fibre Channel Controller (1ch) (8Gbps/Optical)	\checkmark	✓	\checkmark
N8190-154 Fibre Channel Controller (2ch) (8Gbps/Optical)	\checkmark	✓	\checkmark

✓: Supported by EXPRESSBUILDER

1.5 Using a Mass Storage Controller Not Supported by EXPRESSBUILDER

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

You do not need to perform the following instructions usually.

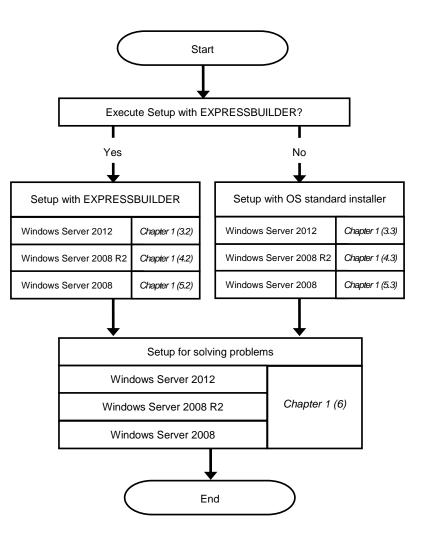
1. Have the instructions for the mass storage controller ready.

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

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

2. Setting Up the Operating System

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



3. Setting Up Windows Server 2012

Set up Windows Server 2012.

3.1 Before Starting Setup

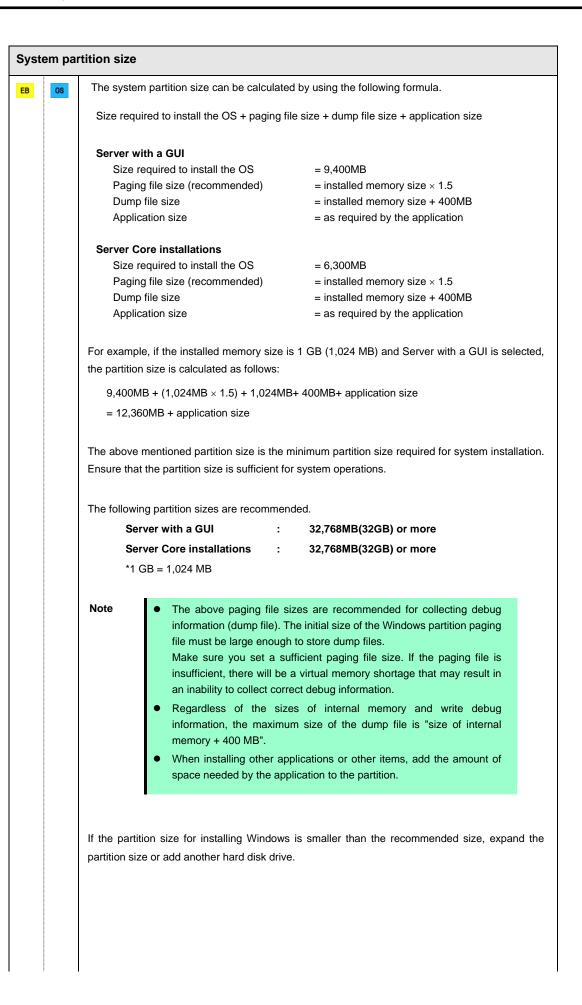
Read through the cautions explained here before starting setup.

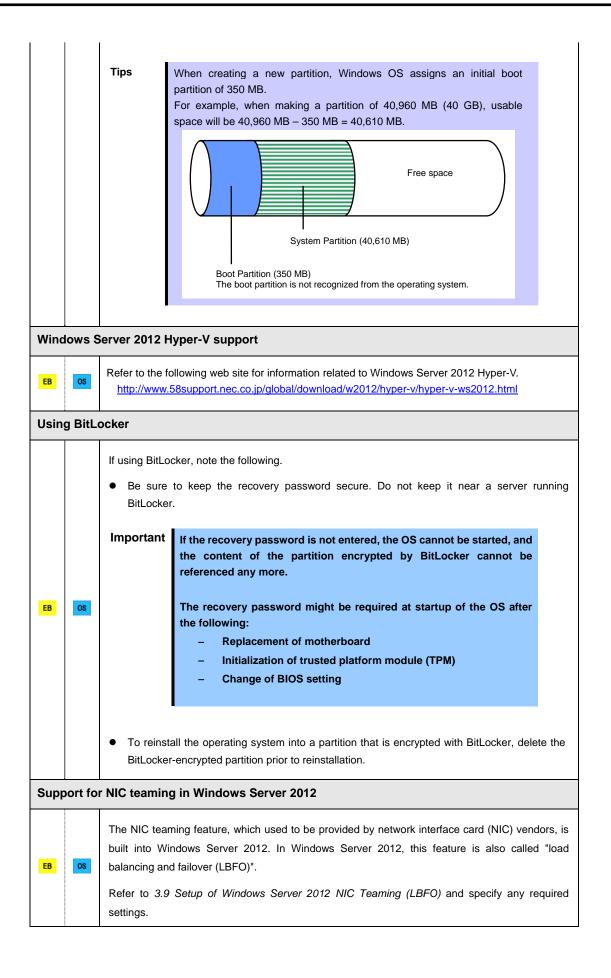
- EB
- : Confirm during Setup with EXPRESSBUILDER
- **OS** : Confirm during Setup with Windows standard installer

Hard	Hardware configuration			
	The following hardware configurations require special procedures.			
ЕВ	OS	Reinstalling to a mirrored volume When you install Windows Server 2012 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.		
EB	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	Connecting to multiple hard disk drives (logical drives) For details on installing operating systems to a system in which multiple logical drives exist, refer to <i>Chapter 1</i> (3.8 Installation When Multiple Logical Drives Exist).		
ЕВ	OS	Reinstalling to hard disk drives that have been upgraded to dynamic disks If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be reinstalled to it with the existing partitions. Set up the operating system with the Windows standard installer.		

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

Example	of incorrect setting 1
-	ing file whose size is smaller than the installed memory size ing file whose size is "installed memory size + 400 MB" or mor
colle	paging file in drive C is used for collecting memory dump, bu ction may fail because the size of the paging file is smaller than th lled memory size.
Example	of incorrect setting 2
D: Pag	ing file whose size is "installed memory size \times 0.5" ing file whose size is "installed memory size \times 0.5" ing file whose size is 400 MB
but c	otal paging file size in all drives is "installed memory size + 400 MB" collection may fail because only the paging file in drive C is used fo cting memory dump.
Example	of incorrect setting 3
D: Pag	paging file exists ing file whose size is "installed memory size + 400 MB" or more ynamic volume)
-	g files in a dynamic volume cannot be used for collecting memory b. Thus, collecting memory dump fails.
-	e other than the system drive for "Dedicated Dump File".
ate the reg	istry shown below by using the Registry Editor and specify the r
ate the reg licated Dun	istry shown below by using the Registry Editor and specify the r
ate the reg licated Dun	nistry shown below by using the Registry Editor and specify the r
eate the reg edicated Dun	istry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM
when spec Key: Name: Type:	istry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ
weate the reg edicated Dun <when spec<br="">Key: Name:</when>	istry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile
<pre>when spec </pre> <pre>Key: </pre> Name: Type: Data:	istry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ
when spec When spec Key: Name: Type: Data:	pistry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
<pre>veate the reg edicated Dun <when spec<br="">Key: Name: Type: Data: Data:</when></pre>	pistry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys powing when specifying Dedicated Dump File: rict attention to edit the registry. tting is applied after restarting the system.
eate the reg edicated Dun when spec Key: Name: Type: Data: Note the folk Pay stu The se Specify	pistry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys wwing when specifying Dedicated Dump File: rict attention to edit the registry. tting is applied after restarting the system. y a drive that has free space of "installed memory size + 400 MB" or
<pre>veate the reg edicated Dun <when spec<br="">Key: Name: Type: Data: Data:</when></pre>	pistry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys powing when specifying Dedicated Dump File: rict attention to edit the registry. tting is applied after restarting the system.
eate the reg edicated Dun cWhen spec Key: Name: Type: Data: Data: Note the folk Pay stu The se Specify Dedica To coll any dri	pistry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys wwing when specifying Dedicated Dump File: rict attention to edit the registry. tting is applied after restarting the system. y a drive that has free space of "installed memory size + 400 MB" of the Dump File cannot be placed in dynamic volumes. ect memory dump by using Dedicated Dump File, a paging file is reference.
ate the reg licated Duri When spec Key: Name: Type: Data: Data: ote the follo Pay str Pay str Pay str Specify Dedica To colli any dri Dedica	pistry shown below by using the Registry Editor and specify the r np File. ifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys wing when specifying Dedicated Dump File: rict attention to edit the registry. tting is applied after restarting the system. y a drive that has free space of "installed memory size + 400 MB" of the Dump File cannot be placed in dynamic volumes. ect memory dump by using Dedicated Dump File, a paging file is re-





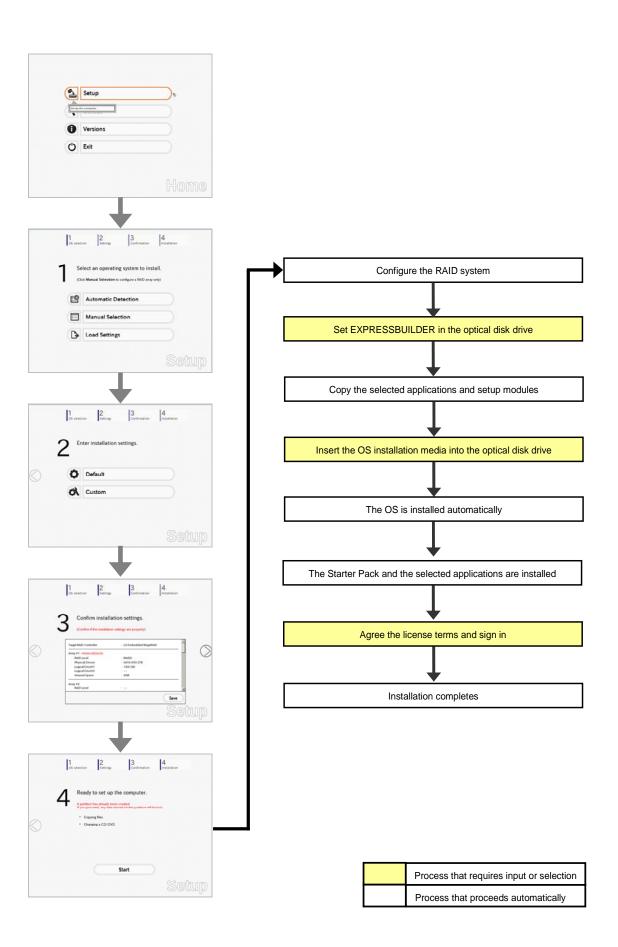
3.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

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

3.2.1 Setup flow



3.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

Tips

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

3.2.3 Setup procedure

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

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

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

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

The following window appears.

Note



The server starts from EXPRESSBUILDER.



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



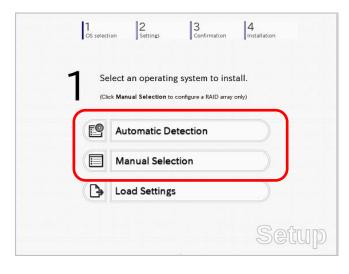
5. Click Setup.

Setup	₽
Versions	
Exit	

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

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

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



To automatically detect the OS on the OS installation media:

(1) Click Automatic Detection.

1 Sel	ect an operatin	g system to in	stall.	
(Clic)	Manual Selection to	configure a RAID arr	ay only)	
	Automatic D	etection	<i>P</i>	kan sa
Select an automati disc.	operating system cally with an installation	tion		
B	Load Setting	S		

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

Question	on				
	To check your OS	δ installation d		the computer. lessage ID : B2014	1
0					
	(ок	Cancel		

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

	elect an operating system to install.	
< 🖻	Automatic Detection	
	Manual Selection	
₽	Load Settings	

To select an OS from the menu:

(1) Click Manual Selection.

	Select an operating system to Click Manual Selection to configure a RAII	
F	Automatic Detection	
	Manual Selection	D B
You	can select the target OS of nstallation from the menu.	*

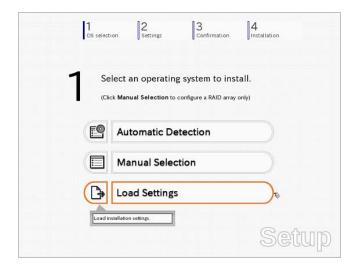
(2) From the Windows list, select Windows Server 2012, and then click OK.



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

1	Se	lect an operating	system to ins	tall.	
	(Clie	ck Manual Selection to c	onfigure a RAID array	only)	
	e	Automatic De	tection		ſ
~		Manual Selec	tion		
	₿	Load Settings			

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



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

Places	Name	▼ Modified
File System	Crownl Crownsb1	07/25/2012 Unknown
and a state of the second	and an analysis	
	1	
💠 Add 🛛 👄 🗛	move	*
		🗶 <u>C</u> ancel 🗁 <u>O</u> pen

Tips

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

Click \bigcirc on the right side of the screen.

1		lect an operating system to	
•	E P	Automatic Detection	٢
		Manual Selection	
~	₿	Load Settings	

On the following screen, click \bigcirc on the right side of the screen. Click ${\bf Custom}$ to check and modify the setting in the wizard.

	1 OS select	tion 2 3 Confirmation	4 Installation	
	2 "	nter installation settings.		
)	•	Default		C
	~ 01	Custom		
			Seti	gl

 \rightarrow Go to step 10.

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

2 '	nter installation settings.	
0	Default	
10	Custom	

Use Default:

(1) Click Default.

	1 2 3 CS selection Settings Conf	firmation
	2 Enter installation settings.	•
\bigcirc	Default	<i>b</i>
	Specify minimum settings for the installation. Default values are used for other settings.	
		Cofura
		Setu[

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

Enter the minimum setting: If you want to use the Win	i to set up the compu dows standard installe	ter. r, click Custom.	
Basic Settings Operating system	: Windows S	erver 2012	
Edition Language Typing Administrato Administrator Pas Reenter Administ	sword		(Required)
	Finish		Cancel

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

2	Enter installation settings.	
~ 0	Default	
5	Custom	

 \rightarrow Go to step 10.

Use Custom:

(1) Click Custom.

0.5		
2	r installation settings.	
0	Default	
	Custom	<i>s</i>
Specify all s installation.	vettings for the	
		Sett

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

Note

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

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

If the RAID controller is not		ed to the following RAID contr nardware configuration.	olier.
Device Information			72 SP
RAID Controller		: LSI Embedded MegaRAID	Detail
Number of Physical D	levices	: 1	
-Summary of RAID			
Array #1 RAIDO (1disk) Logical Drive1 (186	1GB)		×
RAID Configuration			
Skip a RAID Confi	guration		
			1 / 10 Page

When creating new logical drives

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

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

When skipping the creation of new logical drives

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

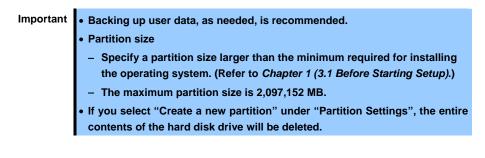
(3) Check the settings specified for **Basic Settings**.

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

Wind You c	Windows by using the s ows standard installe an install easily both Win ESSBUILDER.	r.			
⊏Ва	sic Settings				
1.000	Operating system	: W	indows Server 2012		
	O Use Windows star	idard installer	modia		
ſ	 Install Windows usi 	ng EXPRESSBUILC	DER		1
	Edition	: Standard(G		î.▼_	
	Language Time zone	: English * (UTC-08:0	0) Pacific Time (US & C	anada)	
					4 / 10 Page
-		1			1
	Back	Next			Cancel

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

Wi	tem partition is 2TB.	o the first hard disk d	rive or logical drive.	The maximum partition size for the
	data currently on an exist			be deleted.
c	urrent Partitions (the area sho	wn with a red frame will	be deleted)	
	Free Space			
	(278GB)			
Г	Partition Settings			
	Create a new partition	n		
	O Use all space			
	 Type a partition 		40 (GB)	
		(Minimum	40GB / Recommend	fed 40GB / Maximum 278GB)
Ļ	1			
				5 / 10 Page



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

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

Note

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

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

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

	address, choose Custor	n Settings, click Ad	vanced.
-Network protocols -			
Standard se	ttings		
Custom set			
Standard ada	pter - Internet Protocol (il	×4) ▼	Advanced
			7 / 10 Page
			1,101-6-

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

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

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

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

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

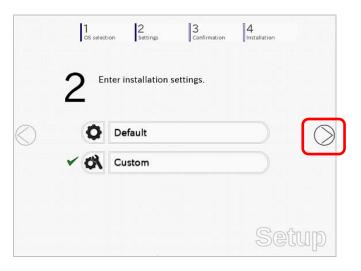
(8) Check the settings of Windows components. Modify the settings as needed, and then click Next.

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

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

	ou want to install. application, see Descript	ion.	
List of a	oplications		Selected applications
	*		NEC ESMPRO Agent
		Add >>	Express Report Service Express Report Service(HTTPS)
	-	<< Delete	Universal RAID Utility
	_	<< Delete	Microsoft .NET Framework Version 3.5.
			ExpressUpdate Agent
- Description	*		
beschpiton			
			10 / 10 Page

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



10. Check the parameter settings.

To save the settings, click Save.

Confirm install	ation settings.	
5	on settings are properly)	
	g. a c p. c	
Target RAID Controller	: LSI Embedded MegaR	AID
Array #1 : Initialized(Quick)		(
RAID Level	: RAIDO	
Physical Device	: SATA #00 2TB	
Logical Drive#1	: 1861GB	
Logical Drive#2	:	
Unused Space	: OGB	
Array #2		
RAID Level	:	
		Save

Click \bigcirc on the right side of the screen.

11. The setup process starts.

Click Start to continue setup.

	CS selection	2 Settings	3 Confirmation	4 Installation
	<u></u>	to set up the		
\bigcirc	* Conf * Copy	iguring RAID system ing files ging media	eated. d on the partition will b	e lost.
		S	tart	
				Setup

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

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

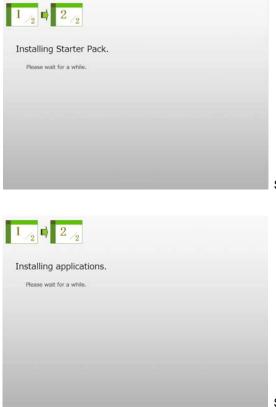
	Insert EXPRES	SSBUILDER.	[Messa	ge ID : J2002]
2	2			

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

Selection	
	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 promet screen appears.
0	[Message ID : J2004]
	OK Cancel

Windows Server 2012 is installed automatically.

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



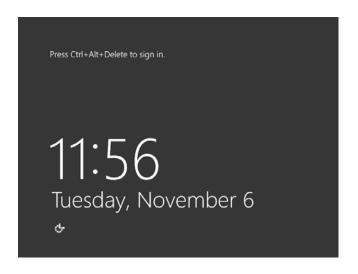
Screen displayed when Starter Pack is being installed

Screen displayed when an application is being installed

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

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

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



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



17. Click OK.

The setup is completed				
The Setup with EXPRESSBUILDER ha	as been succ	essfully comp	leted.	
				OK

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

Setup with EXPRESSBUILDER is now complete.

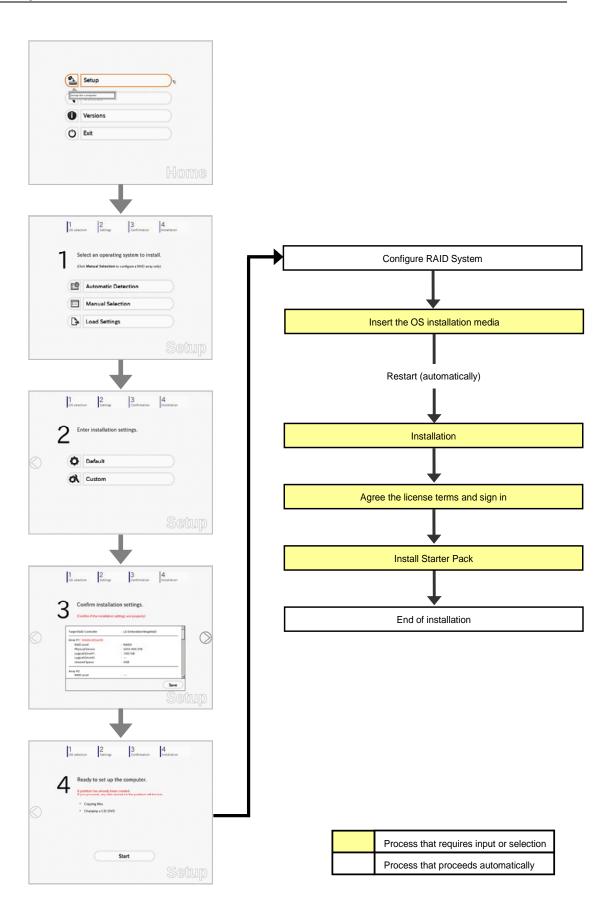
3.3 Setup with Windows Standard Installer

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

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

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

3.3.1 Setup flow



3.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

OS without using the EXPRESSBUILDER DVD.

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

Tips

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

Express5800/R120e-1E, R120e-2E Installation Guide (Windows)

3.3.3 Setup procedure

Note

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

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



The following window appears.



The server starts from EXPRESSBUILDER.



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



5. Click Setup.

Setup	Setup	₽
, O	Versions	
Ċ	Exit	

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

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

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

	elect an operating system to ins	
2	Automatic Detection	
	Manual Selection	
B	Load Settings	

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

1	Select an operat	ing system to insta	.11
		to configure a RAID array o	
	Automatic	Detection	
		_	₽
	Select an operating system automatically with an installation disc.	stion	
	子 Load Settin	gs	

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

	1 OS selection	2 Settings	3 Confirmation	4 Installation	
6	Question				
	To chec	k your OS installatio	n disc, insert it into the [Mess	computer. age ID : B2014]	
	0				
		OK	Cancel		
				Sei	tup

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

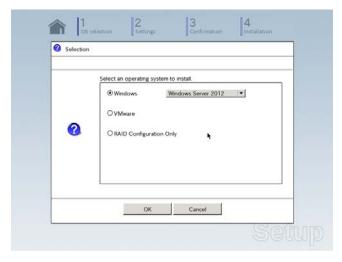
1		ect an operating system to install. : Manual Selection to configure a RAID array only)	
-	9	Automatic Detection	
		Manual Selection	
C	€	Load Settings	

To select an OS from the menu:

(1) Click Manual Selection.

(C	lick Manual Selectio	n to configure a RAID		
			array only)	
e	Automatic	Detection		
	Manual Se	lection		<i>o</i>
You c	an select the target OS of stallation from the menu.	5		
				Setup
	Yous		Manual Selection	You can select the target OS of Yet installation from the menu.

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



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

1	Se	lect an operating system to install.	
•	(Clic	ck Manual Selection to configure a RAID array only)	
	9	Automatic Detection	
~		Manual Selection	(
([}	Load Settings	

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

	elect an operating system to install.
(CI	ick Manual Selection to configure a RAID array only)
e	Automatic Detection
	Manual Selection
B	Load Settings

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

Places	Name	Modified 07/26/2012
File System	🕒 usb1	Unknown
♣ Add — Rer	nove	

Tips

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

Click \bigcirc on the right side of the screen.

	elect an operating system to install. ck Manual Selection to configure a RAID array only)
E	Automatic Detection
	Manual Selection
< B	Load Settings

On the following screen, click \bigcirc on the right side of the screen. Click **Custom** to check and modify the setting in the wizard.

	1 OS select	ion 2 3 Confirmation	4 Installation
	2 "	ter installation settings.	
\bigcirc	0	Default	
	~ 01	Custom	
			Setup

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

	1 2 3 OS selection Settings Conf	firmation
	2 Enter installation settings.	•
0	Default	
	Custom	s.
	Specify all settings for the installation.	
		Setup

Note

If you click **Default**, setup with EXPRESSBUILDER is selected. Click **Custom** to setup OS with Windows standard installer.

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

Note

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

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

If the RAID controller is r	not correct, check	nected to the following RAID cont the hardware configuration.	roller.
Device Information -			127. bit
RAID Controller		: LSI Embedded MegaRAID	Detail
Number of Physic	al Devices	: 1	
Summary of RAID			
Array #1			*
RAIDO (1disk) Logical Drive1 (1	861GB)		
RAID Configuration -			
Skip a RAID C	onfiguration		
	57.0		
			1 / 10 Page
			17 10 1080

When creating new logical drives

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

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

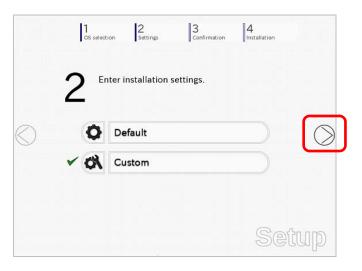
When skipping the creation of new logical drives

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

(2) Check the settings specified for Basic Settings.
 Choose Use Windows standard installer, modify the settings as needed, and then click Next.

Win You	Ill Windows by using the standard installer cor dows standard installer. can install easily both Windows and applicatio RESSBUILDER.			
Г	Basic Settings			
	Language : English	media 58 all Installation) 2) Pacific Time (US & C	(▼ Canada)	¥
				4 / 10 Page
	Back Next			Cancel

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



10. Check the parameter settings.

To save the settings, click Save.

	1 OS selection 2 Setting	s Confirmation	Installation
	Confirm install	ation settings.	
•	(Confirm if the installation	on settings are properly)	
	Target RAID Controller	: LSI Embedded MegaRA	iD A
	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
			Cotinne
			20(2)[[1]]

Click \bigcirc on the right side of the screen.

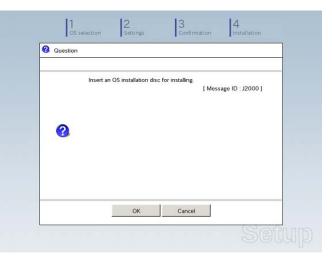
11. The setup process starts.

Click Start to continue setup.

	^) DS selection	2 Settings	3 Confirmation	4 Installation
	Λ	Now y	ou are ready	y to start the se	tup.
	4	An install All data ci	ation partition alread urrently on the part	ly exists. tion will be deleted if you	a proceed.
		* Cont	figuring RAID arrays		
$\langle \rangle$		* Char	nging a CD/DVD		
\bigcirc		* Insta	lling an OS		
				Start	
				Start	
					Setup

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

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



- 13. The server reboots automatically.
- 14. Run from the OS installation media.

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

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

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

This step is unnecessary if no bootable operating system exists.

15. Click Next.



16. Click Install now.

Windows setup starts.

	Windows Setup	
	Windows Server 2	2012
	Install now	
<u>R</u> epair your com	nputer	
© 2012 Microsoft Cor	poration. All rights reserved.	

17. Enter the product key and click Next.

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

18. Select the operating system to install, and the click Next.

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

Windows Setup Select the operating system you want to install		1	
Operating system Windows Server 2012 Standard (Server Core Installation) Windows Server 2012 Standard (Server web a GUI)	Architecture x64	Date modified 7/26/2012 7/26/2012	
Description: This option is useful when a OUI is required—for example, to application that cannot be run on a Server Core installation, supported. You can switch to a different installation option to Options. ²	All server roles and t	eatures are	
		Ne	•

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

License terms	
MICROSOFT SOFTWARE LICENSE TERMS	
MICROSOFT WINDOWS SERVER 2012 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,	
 supplements, 	
□ gccept the license terms	
be	a 1

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

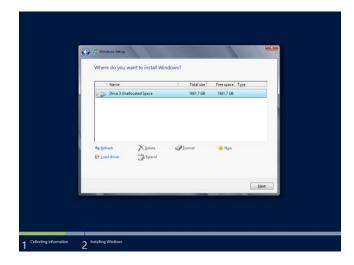
Upgradic: Install Windows and keep files, settings, and applications The files, settings, and applications are moved to Windows with this option. This option is a available when a supported version of Windows is already running on the computer.
Sustem: Install Windows only (advanced) The file, utiling, and applications aren't moved to Windows with this option. If you want the make change to protection and direct, suit the computer using the installation disc. We recommend blocking up your file index you continue.
Hdp me decide

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

Where do you want to install Windows? Neme Total Ge Free sace Type Dive 3 Undecoded Space 1861.7.08 1861.7.08 Application Space 1861.7.08 1861.7.08 Application Space Show
Dive 3 Unellocated Space 10(1)7 G8 10(1)7 G8 4 g. fartech Christ options. (g/surveys)
49 Editedr Drive options (phanced)

If the hard disk drive already contains an OS, go to the next step. If a partition has already been created, go to step 25.

22. Click Next.



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

Name		Total size	Free space Type	
Drive 3 U	inallocated Space	1861.7 GB	1861.7 G8	
49 Befrech	Delete	Size: 1906394		e
			liet	

Note When installing the OS to a disk of over 2,097,152 MB (2 TB), the partition size can only be set to 2,097,152 MB or less.



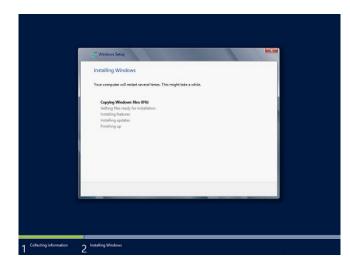
24. Select the partition created in step 23, and then click Format.

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

	ne ve 3 Partition 1: System Reserved	Total size 350.0 MB	Free space Type 320.0 MB System	
-	ve 3 Partition 2	1861.4 GB	1861.4 GB Primary	
€a Bafrash € Load dri	¥ Delate ≫f ∰ Egtend	Eormat	line Ngw	4

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

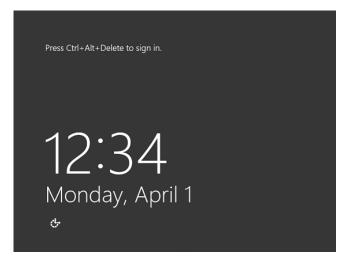
When the following message appears, Windows installation starts automatically.



26. Type a password and click Finish.

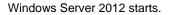
	Setting Type a password for th to this computer.) S he built-in administrator account that you can use to sign in
	User name	Administrator
	Password	
	Reenter password	
Q.		Finish

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



28. Type the password and press Enter.

۲	Administrator Signed in Password
÷	Windows Server 2012



29. The following screen appears according to the contents selected (or displayed) in Step 18.

Server with a	GUI:	
		Server Manager
Los Int All		TO SERVER MANAGER Configure this local server Add roles and features Add other servers to manage
		4 Create a server group Hide D SERVER GROUPS ever groups 1 Servers tatal 1

Server Core Installation:



Tips

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

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

Setup with Windows standard installer is now complete.

3.4 Installing Starter Pack

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

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

3.4.1 When using EXPRESSBUILDER DVD

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

Server with a GUI:

Click Integrated Installation on the menu.

	EXPRESSBUILDER	X
Autorun	Menu	Version 7.00-000.00 (000)
	Instruction Manual	
0	Versions	
P	Integrated Installation	
	Applications	
k	Exit	

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

	pplications if your syste n if you want to reinstal	Installed Stat	Let Pack.	
Starter Pack		J		
O Applications				
NEC ESMPR				
Express Re	port Service port Service(HTTPS)			
Universal R				
	Collection Utility			
ExpressUpc	late Agent			

Tips

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

Server Core installations:

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

```
Cd /d D:\004\win\winnt\bin
```

C:\Users\administrator>cd /d D:\004\win\winnt\bin

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

Pkgsetup.vbs

D:\004\win\winnt\bin>**pkgsetup.vbs**

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

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

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

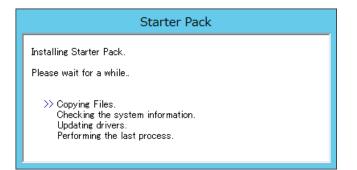
	Starter Pack
?	Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot.
	OK Cancel

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

Note

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

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



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

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

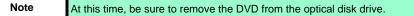
6. Click **OK** to restart the system.

Installation of Starter Pack is now complete.

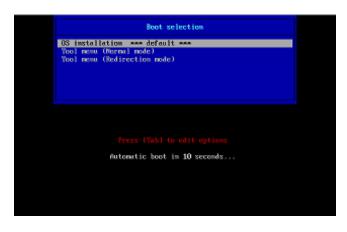
3.4.2 When using Internal Flash Memory

(Optional "Internal Flash Memory" is required)

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



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



The following window appears.



The server starts from EXPRESSBUILDER.



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



5. Click Utilities.

P	Setup	
٩	Utilities	₽
Move to	Utilities Menu.	
Ċ	Exit	

6. Click Starter Pack Installation.



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

Question	n
	Install Starter Pack into the drive where Windows has been installed. Do you want to proceed ?
	[Message ID : P2000]
0	
	Yes No

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

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

The server then restarts.

Note

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

9. Proceed application step according to the installation type.

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

Server with a GUI

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

Server Core installations

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

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

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

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

app_pkg.bat

I	:\>app_pkg.bat		

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

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

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

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

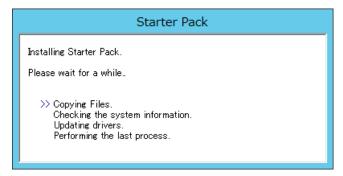
	Starter Pack	>
?	Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot.	
	OK Cancel	

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

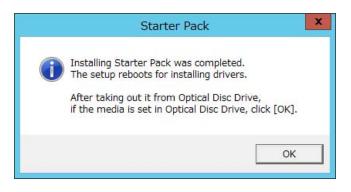
Note

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

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



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



Installation of Starter Pack is now complete.

3.5 Setting Up Device Drivers

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

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

3.5.1 Installing the LAN drivers

(1) LAN drivers

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

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

(2) Optional LAN board

This server supports the following optional LAN boards.

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

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

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

1. Insert EXPRESSBUILDER DVD into the optical disk drive.

If Autorun Menu appears, close the menu.

Tips

EXPRESSBUILDER DVD is unnecessary if Starter Pack was installed from Internal Flash Memory. Proceed to the next step. 2. Open Command Prompt, and execute install.bat in the following folder. When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\004\win\winnt\ws2012\lan\intel

If Starter Pack was installed from Internal Flash Memory:

System Drive:\StartPKG\ws2012\lan\intel

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

Setup is now completed.

Note

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

(3) Network adapter name

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

Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:

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

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

Tips

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

3.5.2 Setting up LAN drivers

(1) Setting link speed

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

Tips

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

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

The link speed setting is now complete.

(2) Using N8104-132/133/138

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

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

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

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

When using EXPRESSBUILDER DVD:

Tips

EXPRESSBUILDER DVD:\004\win\winnt\ws2012\lan\bcom\ws2012x64\lan

If Starter Pack was installed from Internal Flash Memory:

System drive: \StartPKG\ws2012 \lan\bcom ws2012x64 \lan

3. When the following message appears, click OK.

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

Tips

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

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

Setup is now completed.

3.5.3 Graphics accelerator driver

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

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

To reinstall drivers separately, complete the following steps.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.

If Autorun Menu appears, close the menu.

- **Tips** You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.
- 2. On the Start menu, point to All programs, Accessories, and then select Explorer.
- 3. Double-click the install.bat icon in the following folder.
 - When using EXPRESSBUILDER DVD: EXPRESSBUILDER DVD:\004\win\winnt\ws2012\video
 - If Starter Pack was installed from Internal Flash Memory: System drive:\StartPKG\ws2012\video

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

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

Graphic accelerator driver installation is now complete.

3.5.4 When using a SAS controller (N8103-142)

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

3.5.5 When using a RAID Controller (N8103-161)

The driver for RAID Controller N8103-161 is automatically installed by Windows Plug-and-Play.

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

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

3.6 License Authentication

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

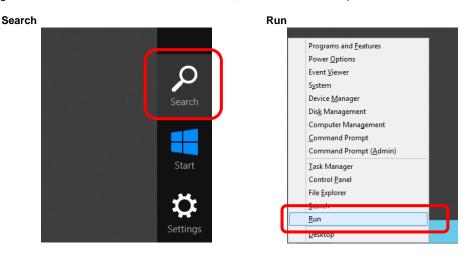
Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

Connect to the Internet to perform the authentication procedure.

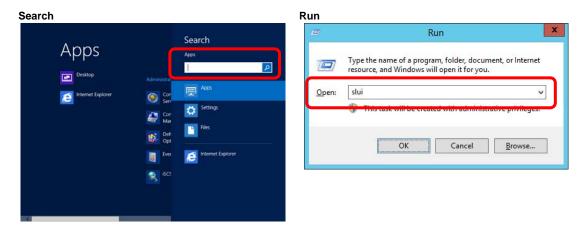
Or, use the telephone to perform the authentication procedure.

(1) Server with a GUI

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



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



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

	Windows Activation		N	- Ø X
- † 🏲 • Com	tol Panel + System and Security + Action Center + Windows Activation	× 6	Search Control Pana	A I
an an	Windows isn't activated Windows can't be activated optimore. Try activiting Windows later. If this issue pensitis, co Support online to activate Windows. 	intact Microsoft Customer	Service and	
	Current edition Windows Server 2012 Standard Courrent product key *****C_CDG99			
	Contact Microsoft Customer Service and Support enfine What is a product lany? Read the Microsoft Software License Terms			
	Activation datails			
				Cancel

Tips

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

Windows activation is now complete.

(2) Server Core installations

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

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

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

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

2. Change the product key.

When using Backup DVD:

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

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

When using Windows Server 2012 DVD-ROM:

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

3. Perform license authentication.

When connected to the Internet:

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

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

This completes authentication.

When not connected to the Internet:

Use telephone for license authentication.

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

C:\Users\administrator>slmgr -dti

Get an Install ID for license authentication.

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

Call Microsoft Licensing Center and tell them your Install ID.

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

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

This completes authentication.

3.7 Installing the Applications

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

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

autorun I	expressbuilder Menu	× Version 7.00.000.00 (000)
	Instruction Manual	
i	Versions	
8	Integrated Installation	\supset
	Applications	
	Exit	

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

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

	Setup
stall these softw	/are.
	t applications if your system have not installed Starter Pack. ion if you want to reinstall it.
O Starter Pack	
Applications	
	Report Service Report Service(HTTPS)
Product In	nfo Collection Utility
ExpressUp	odate Agent
	Install Cancel

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

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

The selected applications are automatically installed.

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

Now installation of applications is completed.

ne nis

3.8 Installation When Multiple Logical Drives Exist

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

(1) Installation process

Setup with EXPRESSBUILDER

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

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

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

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

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

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

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

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

Tips

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

(2) Changing drive letter assignments

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

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

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

8. Close the Server Manager.

3.9 Setup of Windows Server 2012 NIC Teaming (LBFO)

Set up the network adapter teaming feature as shown below.

(1) Launching the NIC teaming setup tool

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

The NIC teaming setup tool will launch.

Tips

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

(2) Creating a team

Create a team by using the NIC teaming setup tool.

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

Teaming mode

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

Load balancing mode

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

Standby adapter

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

Setting all adapters to active mode is also possible.

Primary team interface

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

(3) Notes and restrictions

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

4. Setting Up Windows Server 2008 R2

Set up Windows Server 2008 R2.

4.1 Before Starting Setup

Read through the cautions explained here before starting setup.

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

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

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

 C: Paging file whose size is smaller than the installed memory s D: Paging file whose size is "installed memory size + 300 MB" or → 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" 	300 MB" or m emory dump, s smaller than
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"	s smaller than
C: Paging file whose size is "installed memory size × 0.5"	0.5"
	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 + 300 but collection may fail because only the paging file in drive C is us collecting memory dump.	•
Example of incorrect setting 3	
C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or (in dynamic volume)	
→ Paging files in a dynamic volume cannot be used for collecting me dump. Thus, collecting memory dump fails.	300 MB" or m
specify a drive other than the system drive for "Dedicated Dump File".	ump File".
reate the registry shown below by using the Registry Editor and specify	ump File".
eate the registry shown below by using the Registry Editor and specify dicated Dump File.	ump File".
	ump File".
Create the registry shown below by using the Registry Editor and specify Dedicated Dump File. <when "dedicateddumpfile.sys"="" d="" drive="" file="" in="" named="" specifying="" the=""> Key: HKEY_LOCAL_MACHINE\SYSTEM</when>	ump File".
reate the registry shown below by using the Registry Editor and specify edicated Dump File. <when "dedicateddumpfile.sys"="" d="" drive="" file="" in="" named="" specifying="" the=""> Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name: DedicatedDumpFile Type: REG_SZ</when>	ump File".
Create the registry shown below by using the Registry Editor and specify Dedicated Dump File. When specifying the file named "dedicateddumpfile.sys" in drive D> Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name: DedicatedDumpFile	ump File".
Create the registry shown below by using the Registry Editor and specify Dedicated Dump File. Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name: DedicatedDumpFile Type: REG_SZ Data: D:\dedicateddumpfile.sys	ump File".
intervention intervention interventinterventinterie interventervention	ump File".
Create the registry shown below by using the Registry Editor and specify bedicated Dump File.	ump File".
Create the registry shown below by using the Registry Editor and specify Dedicated Dump File. </td <td>ump File". and specify th</td>	ump File". and specify th
 reate the registry shown below by using the Registry Editor and specify edicated Dump File. 	with the specify the specific specif
<pre>reate the registry shown below by using the Registry Editor and specify edicated Dump File. </pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>Key: HKEY_LOCAL_MACHINE\SYSTEM <pre>\CurrentControlSet\Control\CrashControl Name: DedicatedDumpFile Type: REG_SZ Data: D:\dedicateddumpfile.sys </pre> Note the following when specifying Dedicated Dump File: Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 300 N</pre> Dedicated Dump File cannot be placed in dynamic volumes.	ump File". and specify th ve D>
Create the registry shown below by using the Registry Editor and specify Dedicated Dump File. <when "dedicateddumpfile.sys"="" d="" drive="" file="" in="" named="" specifying="" the=""> Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name: DedicatedDumpFile Type: REG_SZ Data: D:\dedicateddumpfile.sys Note the following when specifying Dedicated Dump File: Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 300 M</when>	ump File". and specify th ve D>
Create the registry shown below by using the Registry Editor and specify Dedicated Dump File. <pre> </pre> <pre> </pre>	ump File". and specify th ve D>

Syste	em par	tition size		
EB	OS	The system	•	ted by using the following formula. file size + dump file size + application size
		Full instal	lations	
			equired to install the OS	 = 15,600 MB (Windows Server 2008 R2 + Service Pack 1) = 8,400 MB (Windows Server 2008 R2 with Service Pack 1) = 8,000 MB
		Dump	file size (recommended) file size	(Windows Server 2008 R2) = installed memory size × 1.5 = installed memory size + 300MB
		Applica	ation size	= as required by the application
		Server Co	ore installations	
		Size re	equired to install the OS	 = 11,100 MB (Windows Server 2008 R2 + Service Pack 1) = 3,700 MB (Windows Server 2008 R2 with Service Pack 1) = 3,500 MB
		Paging	file size (recommended)	(Windows Server 2008 R2) = installed memory size × 1.5
			file size	= installed memory size + 300MB
		Applica	ation size	= as required by the application
			e, if the installed memory size size is calculated as follows:	e is 1 GB (1,024 MB) and Full installations is selected,
8,000 MB + $(1,024MB \times 1.5)$ + 1,024MB+ 300MB+ application size = 10,860MB + application size		MB+ 300MB+ application size		
			nentioned partition size is the the partition size is sufficient	e minimum partition size required for system installation. for system operations.
		The followin	g partition sizes are recomme	ended.
		Full	installations :	32,768MB(32GB) or more
			ver Core installations : B = 1,024 MB	10,240MB(10GB) or more
		 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 + 300 MB". When installing other applications or other items, add the amount of space needed by the application to the partition. 		The initial size of the Windows partition paging gh to store dump files. sufficient paging file size. If the paging file is e a virtual memory shortage that may result in rrect debug information. izes of internal memory and write debug num size of the dump file is "size of internal
			on size for installing Windov e or add another hard disk dri	vs is smaller than the recommended size, expand the ve.

		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: transformed black of the transformed black of
Нуре	er-V 2.0	0 support
EB	os g BitL	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>
		 If using BitLocker, note the following. Be sure to keep the recovery password secure. Do not keep it near a server running BitLocker.
ЕВ	0\$	Important If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any more. The recovery password might be required at startup of the OS after the following: – Replacement of motherboard – Initialization of trusted platform module (TPM) – Change of BIOS setting
		 To reinstall the operating system into a partition that is encrypted with BitLocker, delete the BitLocker-encrypted partition prior to reinstallation. 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>

Insta	alling S	ervice Pack
EB	05	 If the OS installation media contains Service Pack 1, you do not need to apply the service pack again. You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself.
Lice	nse au	thentication
		License authentication is required depending on the installation of Windows. For details, refer to <i>4.6 License Authentication</i> .
EB	OS	 Note Activate within 30 days following installation. A virtual product key is used when installing in a virtual environment. It is not used when directly installing an operating system to a physical server.

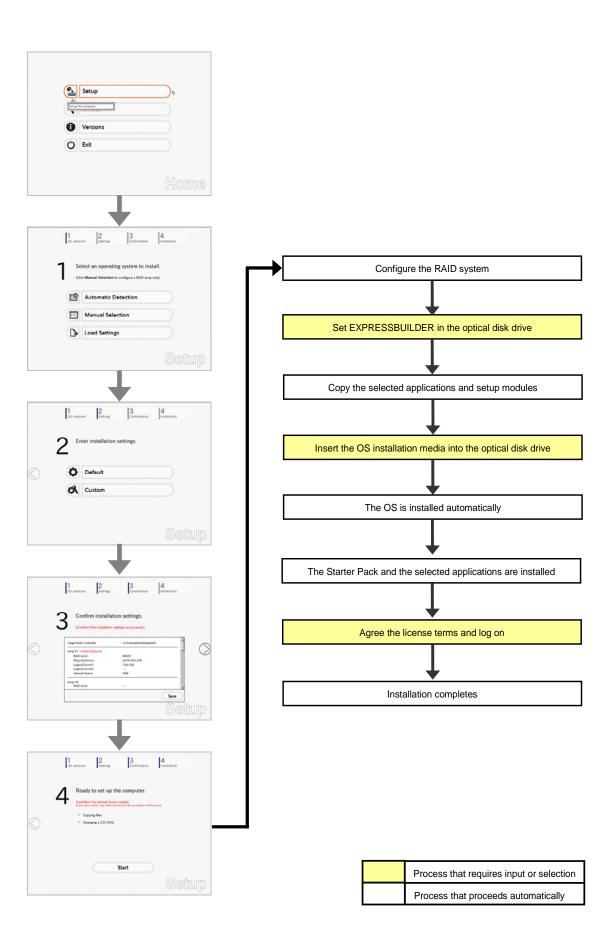
4.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

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

4.2.1 Setup flow



4.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

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

OS without using EXPRESSBUILDER DVD.



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

Express5800/R120e-1E, R120e-2E Installation Guide (Windows)

4.2.3 Setup procedure

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

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

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

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

The following window appears.



The server starts from EXPRESSBUILDER.



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

表示する言語を選んで・ Select the language for o	
○ 日本語	
ОК	

5. Click Setup.

Setup	Setup	2
•	Versions	
٥	Exit	

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

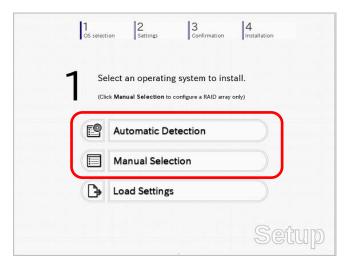
□ When not using parameter file□ When using a parameter file

: Go to Step 7. : Go to Step 8.

Note

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

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



To automatically detect the OS on the OS installation media:

(1) Click Automatic Detection.

1 Se	lect an operating s	ystem to inst	all.
(Cli	ck Manual Selection to con	figure a RAID array c	nly)
2	Automatic Dete	ction	D ⁰
Select automa disc.	an operating system atically with an installation	'n	
B	Load Settings		

Insert the OS installation media, and then click OK.

To che	ck your OS installation		e computer. ssage ID : B2014]	
		[we	556ge (D , 52014 J	
3				

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

	elect an operating system to install.
• (C	
	Automatic Detection
	Manual Selection
	Load Settings

To select an OS from the menu:

(1) Click Manual Selection.

111	elect an operating system to in lick Manual Selection to configure a RAID ar	
2	Automatic Detection	
	Manual Selection	<i>B</i>
You co	an select the target OS of tailation from the menu.	

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

Select an operating system to install.			
Windows Server 2008 R2	Windows ■		
	OVMware		
ation Only	O RAID Configur	2	
*			
	O RAID Configur	3	

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

1	6.	leat an anarating parton to install	
		lect an operating system to install.	
	E	Automatic Detection	
~		Manual Selection	\supset
	₽	Load Settings	

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

1 OS selec	tion 2 3 4 Installation
	elect an operating system to install. ck Manual Selection to configure a RAID array only)
Ľ	Automatic Detection
	Manual Selection
Þ	Load Settings
Load	ssallation settings. Setup

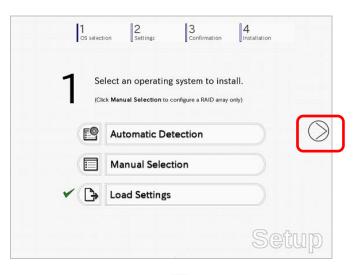
Follow the on-screen instruction to load the parameter file (*.tre).

05 selection	2 Settings	onfirmation
Places	nect Name	▼ Modified
File System	C cdrom1	Tuesday
	-	
		1000
∳ Add - R	move	-
		Setup

Tips

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

Click \bigcirc on the right side of the screen.

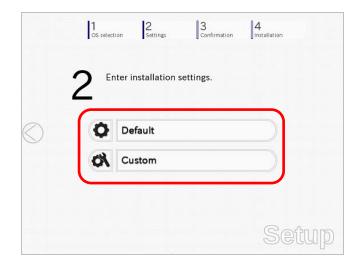


On the following screen, click \bigcirc on the right side of the screen. Click **Custom** to check and modify the setting in the wizard.

	1 OS select	ion Settings Sconfirmatic	on Installation	
	2 "	ter installation settings.		
\bigcirc	0	Default		\bigcirc
	~ Ø	Custom		
			Set	up

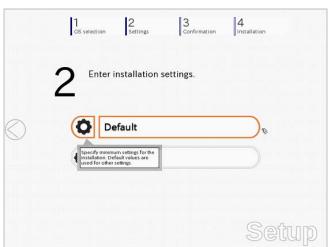
 \rightarrow Go to step 10.

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



Use Default:

(1) Click Default.



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

Enter the minimum setting If you want to use the Wi	gs to set up the compute ndows standard installer		
Basic Settings			
Operating system	: Windows Se	rver 2008 R2	
Edition	Standard(Fu	ll Installation)	
Language	English 🔻		87
Typing Administrat	or Password	0	
Administrator Pa	issword	:	(Required)
Reenter Adminis	trator Password	:	(Required)
	Finish		Cancel

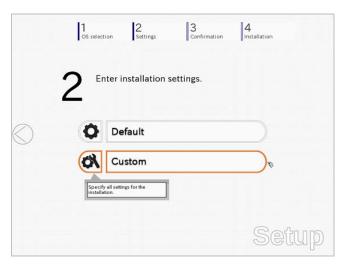
(3) Click \bigcirc on the right side of the screen.

	1 OS se	ection 2 Settings	3 Confirmation	4 Installation	
	2	Enter installation s	ettings.		
)	~0	Default			\bigcirc
	ø	Custom			
				Set	up

 \rightarrow Go to step 10.



(1) Click **Custom**.



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

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

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

Guide" when creating RAID10. Wizard Install an operating system to the drive connected to the following RAID controlle If the RAID controller is not correct, check the hardware configuration. Device Informatio RAID Controller LSI Embedded MegaRAID Detail Number of Physical Device ummary of RAID Array #1 RAIDO (1disk) ' ceical Drive1 A (1861GB) RAID Configuration Skip a RAID Configuration 1 / 10 Page Next Cancel

When creating new logical drives

Note

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

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

When skipping the creation of new logical drives

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

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

Win	all Windows by using the s adows standard installed a can install easily both Wir PRESSBUILDER.	er.			
Γ	Basic Settings Operating system	: W	ndows Server 2008	R2	
	O Use Windows star	ndard installer ivers to removable r	nedia		
	Install Windows usi Edition Language Time zone	Standard(Fi	ull Installation)	T ▼ Canada)	•
-					4 / 10 Page
	Back	Next			Cancel

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

Win	cify the settings of the s dows will be installed in em partition is 2TB. lata currently on an exis	to the first hard disk di	ive or logical drive. T	he maximum partition size for the
1000				e deleted.
Cu	ment Partitions (the area sh	own with a red frame will	be deleted)	
	Free Space			
	(278GB)			
Г	Partition Settings			
	Create a new partitie	on		
	O Use all space			10.000000000000
	 Type a partition 		40 (GB)	*1TB=1024GB
		(Minimum:	40GB / Recommende	ed 40GB / Maximum 278GB)
				Not well that to the
				5 / 10 Page
	11	· · · · ·		

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

• Partition size

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

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

User information Computer name User name Administrator Password Reenter Administrator Password	1-1993-0123456 Administrator	(Required)
User name Administrator Password	1-1993-0123456 Administrator	
Administrator Password	Administrator	
Administrator Password		(Required)
		(Required)
Reenter Administrator Password		Constant and
		(Required)
		6 / 10 Page

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

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

If you want to type an IP address, choose Cu	stom Settings, click Advanced.
Network protocols	
Standard settings	
O Custom settings	
Standard adapter - Internet Protoc	col (IPv4) V Advanced
	7 / 10 Page

Tips

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

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

loin this computer to a domain or a Choose Workgroup or Domain ,	and then enter par	ameters.		
┌─				
Workgroup name	: WOF	RKGROUP		
O Join a domain				
Domain name	:			
Account name	:			
Password	:			
Reenter password	:			
			8 /	10 Page
Back	ext		Canc	

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

Server roles Web server(IIIS) Print DHCP server DNS server Vindows features SIMIP service Simple TCP/IP services WINS server	
DHCP server DNS server DNS server Hype Windows features SNMP service Simple TCP/IP services	services. sr-V
DHCP server DNS server DNS server Hype Windows features SNMP service Simple TCP/IP services	services. sr-V
Windows features SiNMP service Simple TCP/IP services	
SNMP service	Advanced
Simple TCP/IP services	Advanced
	9 / 10 Page
Back Next	Cancel

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

Server Core installations

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

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

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

2 Enter installation settings.
Default Custom

10. Check the parameter settings.

To save the settings, click Save.

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

Click \bigcirc on the right side of the screen.

11. The setup process starts.

Click Start to continue setup.

			ngs Confirm		
		eady to set	up the comput	er.	
	4	partition has alread you proceed, any	ly been created. data stored on the partit	ion will be lo	st
		Configuring RAI	D system		
)		Copying files			
~		 Changing media 			
			Start		
					Setup

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

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

Quest	ion				
	Insert E	XPRESSBUILDER		[Message I	D : J2002]
0					
-		OK	Cancel		

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

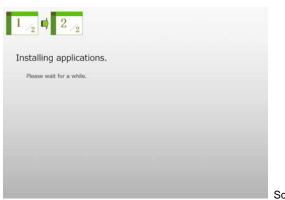
Selection	tion	
	Insert the OS installation (
	Click OK to proceed to the (30-90 minutes until com	
		d keyboard during the setup until the
	prompt screen appears.	
		[Message ID : J2004]
	ОК	Cancel

Windows Server 2008 R2 is installed automatically.

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



Screen displayed when Starter Pack is being installed



Screen displayed when an application is being installed

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

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

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



Full installations:

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

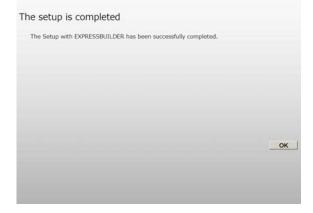


Server Core installations:

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



17. Click OK.



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

Setup with EXPRESSBUILDER is now complete.

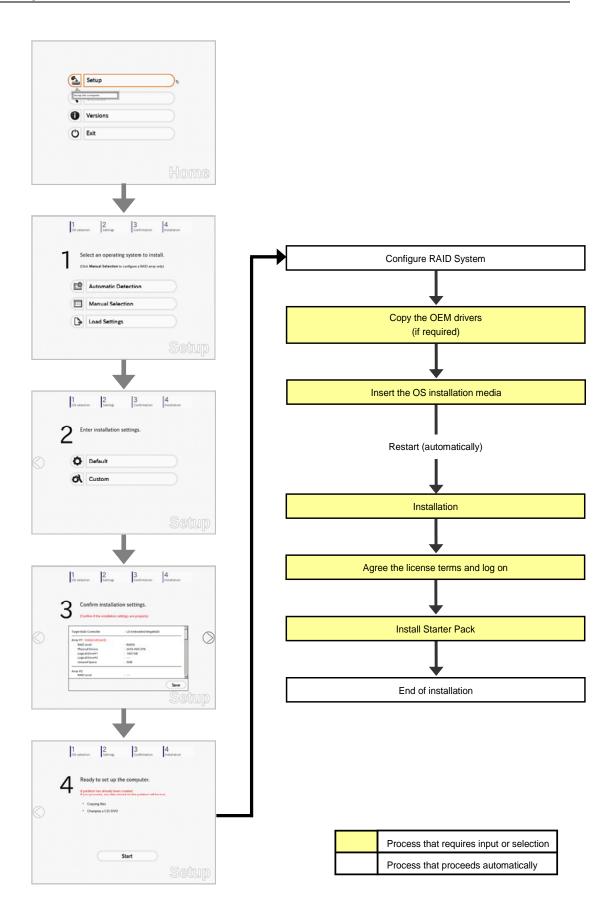
4.3 Setup with Windows Standard Installer

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

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

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

4.3.1 Setup flow

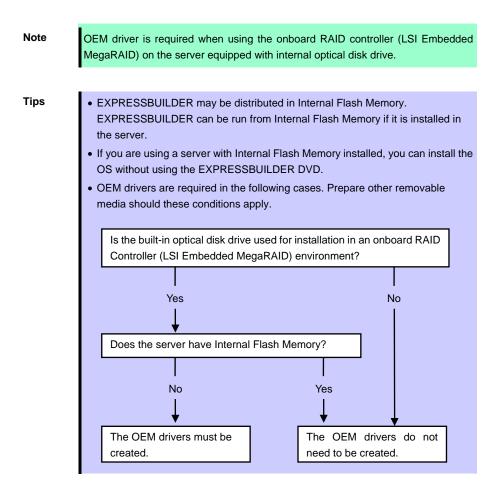


4.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

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

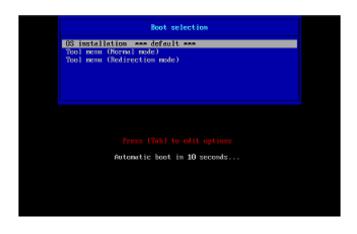


4.3.3 Setup procedure

Note

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

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



The following window appears.



The server starts from EXPRESSBUILDER.



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



5. Click Setup.

Set up the compo		 B
	sions	
C Exit		

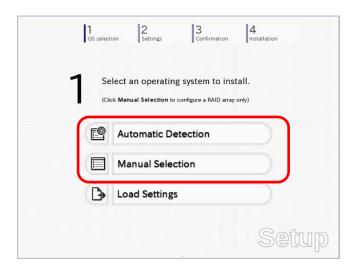
6. On the OS selection menu, select the OS to install or specify the parameter file.

□ When not using parameter file□ When using a parameter file

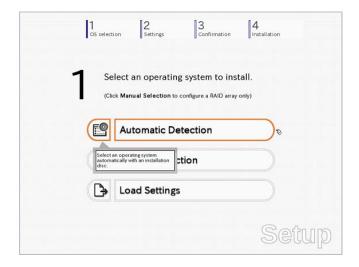
: Go to Step 7. : Go to Step 8.

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

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



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



Insert the OS installation media, and then click OK.

		na n. Mr. mai	100110100		
To che	ck your OS install	ation disc, insert it		nputer. ID : B2014]	
25					
2					
	ОК	Cancel			-

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

1		lect an operating system to install.	
~	0	Automatic Detection	
		Manual Selection	
(€	Load Settings	

To select an OS from the menu:

(1) Click Manual Selection.

1 s	elect an operating system to i	nstall.
(C	lick Manual Selection to configure a RAID a	rray only)
Ľ	Automatic Detection	
	Manual Selection	σ
You c the in:	an select the target OS of stallation from the menu.	

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



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

1		lect an operating system to in	
1	(Clie	ck Manual Selection to configure a RAID arra	y only)
	e	Automatic Detection	
~		Manual Selection	
	₿	Load Settings	

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

	ect an operating system to install.
(Click	Manual Selection to configure a RAID array only)
Ľ	Automatic Detection
	Manual Selection
	Load Settings

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

Places	Name	▼ Modified
File System	Cdrom1	Tuesday
	1	
		1502
4 Add - Rem	ove	
		X Cancel BOpen

Tips

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

Click \bigcirc on the right side of the screen.

	elect an operating system to install. ick Manual Selection to configure a RAID array only)
e	Automatic Detection
	Manual Selection
< B	Load Settings

On the following screen, click \bigcirc on the right side of the screen. Click **Custom** to check and modify the setting in the wizard.

	OS selec	tion 2 Settings	Confirmation	4 Installation	
	2	nter installation s	ettings.		
)	•	Default			C
	~ 01	Custom			
				Set	up

 \rightarrow Go to step 10.

9. Click Custom.

	1 2 3 OS selection Settings Co	nfirmation 4
2	Enter installation setting	S.
	Default	
	Custom	a d
	Specify all settings for the installation.	
		Setup

Note

If you click **Default**, setup with EXPRESSBUILDER is selected. Click **Custom** to setup OS with Windows standard installer.

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

Note

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

		ected to the following RAID contr he hardware configuration.	oner.
Device Information			
RAID Controller		: LSI Embedded MegaRAID	Detail
Number of Physica	al Devices	: 1	
Summary of RAID			
Array #1 RAIDO (1disk) Logical Drive1 (1	861GB)		<u>*</u>
-RAID Configuration-			M
Skip a RAID Co	onfiguration		
			1 / 10 Page

When creating new logical drives:

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

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

When skipping the creation of new logical drives:

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

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

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

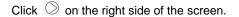
Windows standard	installer. both Windows and applica		illation disc when you select Us tall Windows using
- Basic Settings Operating sys	tem : V	Windows Server 2008	22
100	ows standard installer OEM drivers to removable	media	
C Install Wind Edition Language Time zone	: Englishi *	Full Installation)	[▼] Zanada) [▼]
			4 / 10 Page
Back	Next		Cancel

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

C Ente	er installation settings.	
ے ہ	Default	
~ Ø	Custom	

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

OS selection Setti	ngs 3 Confirmation 1	istallation
	allation settings.	
\prec	inution settings.	
(Confirm if the install	ation settings are properly)	
•		
Target RAID Controller	: LSI Embedded MegaRAID	
Array #1 : Initialized(Quick)		(
RAID Level	: RAIDO	
Physical Device	: SATA #00 2TB	· · · ·
Logical Drive#1	: 1861GB	
Logical Drive#2	2 ***	
Unused Space	: OGB	
Array #2		
RAID Level	: ***	
		Save



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

2				
Rea	ady to set u	p the comput	er.	
A par	tition has already a proceed, any da	been created ta stored on the part	tion will be lost	
	Configuring RAID	system		
	Copying OEM driv	rers		
	Changing a CD/D	VD		
•	installing an OS			
		Start		
		Start		

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

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

Quest	ion	
	Copy OEM drivers (Windows Server 2008 R2). Set removable media, and then click Yes .	
	[Message ID : G2000]	
?		
	Yes No	

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

Question
Insert an OS installation disc for installing. [Message ID : J2000]
0
•
OK Cancel

13. The server reboots automatically.

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

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

Note

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

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

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

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

This step is unnecessary if no bootable operating system exists.

15. Click **Next** at default settings.



16. Click Install Now 😂.

Windows Server 2008 R2 installation starts.



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



```
Tips
```

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

17. Select the destination, and then click OK.

```
      If using OEM drivers (made at step 12)

      Removable media:\OEM_Driver\ws2008r2\megasr1

      If using Internal Flash Memory

      Internal Flash Memory:\004\win\winnt\oemfd\ws2008r2\megasr1
```

Tips

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

- 18. Select LSI Embedded MegaRAID, and then click Next.
- 19. Select the edition of the Windows you purchased and the installation method. The screen display differs depending on an OS installation media you are using.

Vet 2008 B2 Standard (Full Installation) 64 77.44/2009 vet 2008 B2 Standard (Full Installation) 64 77.44/2009 vet 2008 B2 Enterprise (Full Installation) 64 77.44/2009 vet 2008 B2 Enterprise (Full Installation) 64 77.44/2009 vet 2008 B2 Charactere (Full Installation) 64 77.44/2009 65 Server 2008 B2 (Full Installation) 64 77.44/2009 65 Server 2008 B2 (Server Core Installation) 64 77.44/2009 85 Server 2008 B2 (Server Core Installation) 64 77.44/2009 85 Server 2008 B2 (Server Core Installation) 64 77.44/2009 stalls the complete installation of Windows Server. This installation includes the entit and it supports all of the server roles.	Operating system		Architecture	Date modified
verz 2008 R.2. Filterpreise (Full Installation) 44 77.47.2009 verz 2008 R.2. Filterpreise (Server Cere Installation) 44 77.47.2009 verz 2008 R.2. Filterpreise (Server Cere Installation) 44 77.47.2009 verz 2008 R.2. Filterpreise (Server Cere Installation) 454 77.47.2009 Server 2008 R.2. (Server Core Installation) 454 77.47.2009 Server 2008 R.2. (Server Core Installation) 454 77.47.2009 Streme 2008 R.2. (Server Core Installation) 454 77.47.2009 Streme 2008 R.2. (Server Core Installation) 454 77.47.2009 stalls the complete installation of Windows Server. This installation includes the entitiest 454			x64	7/14/2009
vm 2008 42 Interprise General Care Installation) 64 7/14/2009 vm 2008 42 Distances (full hydrallation) 64 7/14/2009 ver 2008 42 Distances (full hydrallation) 64 7/14/2009 store 2008 42 Distances (full hydrallation) 64 7/14/2009 bit Server 2008 42 (Server Core Installation) 64 7/14/2009 bit Server 2008 42 (Server Core Installation) 64 7/14/2009 stalls the complete installation of Windows Server. This installation includes the entities 64				
ver. 2008 42 Datascenter (Full Notalitation) 64 77.4/2009 ver.2008 42 Datascenter (Siever Concentration) 64 77.4/2009 b Server 2008 42 Datascenter (Siever Concentration) 64 77.4/2009 b Server 2008 42 (Full Installation) 64 77.4/2009 b Server 2008 42 (Server Core Installation) 64 77.4/2009 a Server 2008 42 (Server Core Installation) 64 77.4/2009 stalls the complete installation of Windows Server. This installation includes the entiti 64				
ver 2008 P2 Datacenter (Server Core Installation) 64 77,47,009 15 Gerver 2008 P2 (UII Installation) 64 77,47,009 15 Gerver 2008 P2 (Server Core Installation) 64 77,47,009				
b Server 2008 R2 (Full Installation) 464 7/14/2009 b Server 2008 R2 (Server Core Installation) 464 7/14/2009 stalls the complete installation of Windows Server. This installation includes the entit				
bb Server 2008 R2 (Server Core Installation) x64 7/14/2009 stalls the complete installation of Windows Server. This installation includes the entit				
stalls the complete installation of Windows Server. This installation includes the entit				
	use mendet, dau it pa	bhairs an an the foreign triller		

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

н.	MICROSOFT SOFTWARE LICENSE TERMS	8
н.	MICROSOFT WINDOWS SERVER 2008 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. Frinted paper license terms, which may come with the software, take the place of any on-screen license terms. The terms also apply to any Microsoft	
	* updates,	-1
	F 1 accept the license terms	
Ŀ		
	14	ext

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

Which t	/pe of installation do you want?
L.	Lipgrade Upgrade to a newer 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 partitions is available when you start your compared using the installation disc. We recommend becking up your files before you proceed.
Help me d	ecide

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

Note

If the driver was loaded in steps 16, 17 and 18, or if a RAID Controller is not used, go to step 26.

Click Load Driver.

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

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

Tips

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

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

When using the N8103-172/173/174 RAID Controller: \004\win\winnt\oemfd\ws2008r2\megasas2

When using the N8103-168 RAID Controller \004\win\winnt\oemfd\ws2008r2\megasas2

When using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive: \004\win\winnt\oemfd\ws2008r2\megasr1

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

N8103-172/173/174 RAID Controller: [LSI MegaRAID SAS 9272-8i]

- N8103-168 RAID Controller: [LSI MegaRAID SAS 9265CV-8i]
- If using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive [LSI Embedded MegaRAID]

Tips

When N8103-168 is used, the name of the RAID Controller that appears on the screen differs from the one shown on WebBIOS and Universal RAID Utility. However, this is not a problem.

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

Tips

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

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

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

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

Name		Total Size	Free Space Type	
Disk 0 Unall	ocated Space	74.5 GB	74.5 GB	
# Befresh 9 Load Driver	Relete	@Eormat	🔶 Ne <u>w</u>	Next

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

- Note
 When installing the OS to a disk of over 2,097,152 MB (2 TB), the partition size can only be set to 2,097,152 MB or less.

 Tips
 When creating a new partition and installing the OS, a 100 MB boot partition is created. When the following window appears, click OK.

 Install Windows
 Install Windows features work correctly, Windows might create additional partitions for system files.

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

Disk 0 Partition 1: System Reserved 1000 MB 86.0 MB System Disk 0 Partition 2 29.9 GB 20.9 GB Primary Disk 0 Partition 2 99.9 GB 20.9 GB Primary	Name	 Total Size	Free Space	
4g Editesh ➤ Delate				
😢 Load Driver 🔄 Egtend		Ecrmat	i∯ Ngw	

Tips

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

When the following message appears, Windows installation starts automatically.

Installing Windows			
That's all the information we installation.	need right now. Your computer will restart	t several times during	
Copying Windows files Expanding Windows file Installing features	s (0%)		
Installing updates Completing installation			
			_

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



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



Server Core installations:



Tips

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

32. Click OK.



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

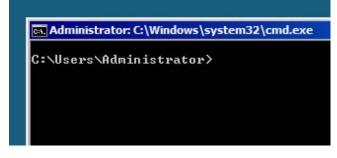
Full installations:

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

Provide Computer Information	6		Spectying computer information	
🔁 Activate Windows	Product ID:	Tick activated		
in Set time zone	Time Zone:	(1/TC-01:00) Pacific Time (US-& Cenada)		
Eorligue networking	Local Area Connection	Not connected		
M Provide computer name and domain	Full Computer Name: Workgroup:	WING15KAUAVAPS WORKERDUP		
2 Update This Server			Updating your Windows server	
🎎 Enable automatic updating and feedback	Updates: Feedback:	Not configured Windows Error Reporting off Not perforpating in Customer Experience	Ingrounet Progre	
Townload and install updates	Checked for Updates: Installed Updates:	Nayour Narour		
Customize This Server			Customang your server	
Add rules	Ralest	Torre		
Add features	Features:	Nove		
Generative Remote Desktop	Remote Desktop:	Deatled		
Configure Windows Frewall	firmalt	Fublic On		

Server Core installations:

The command prompt will appear. Set the user information.



Tips

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

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

Setup with Windows standard installer is now complete.

4.4 Installing Starter Pack

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

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

4.4.1 When using EXPRESSBUILDER DVD

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

Full installations:

Click Integrated Installation on the menu.

Autorun N	Menu	Version 7.00-000.00 (0
	Instruction Manual	
i	Versions	
P	Integrated Installation	\square
	Applications	
	Exit	

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

Starter Pack			J	
IT NEC ESM	PRO Agent			
	Report Service			
	Report Service(HTTP	5)		
	RAID Utility			
F Product 1	nfo Collection Utility			
Expressi	pdate Agent			

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

Server Core installations:

- (1) From the command prompt, type the following command. (In the example below, the optical disk drive is D drive.)
 - Cd /d D:\004\win\winnt\bin

C:\Users\administrator>cd /d D:\004\win\winnt\bin

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

Pkgsetup.vbs

Tips

D:\004\win\winnt\bin>**pkgsetup.vbs**

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

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

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



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

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

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

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

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

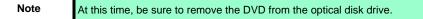
6. Click **OK** to restart the system.

Installation of Starter Pack is now complete.

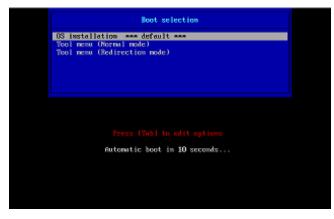
4.4.2 When using Internal Flash Memory

(Optional "Internal Flash Memory" is required)

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



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



The following window appears.



The server starts from EXPRESSBUILDER.



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



5. Click Utilities.

Setup	
Utilities	Ð
Move to Utilities Menu.	
Č Exit	

6. Click Starter Pack Installation.

	RAID Configuration Data	
	File Execution	
8	Starter Pack Installation	
Install	starter Pack to the installed	

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

Questio	n
	Install Starter Pack into the drive where Windows has been installed. Do you want to proceed ?
	[Message ID : P2000]
2	
	Yes No

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

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

The server then restarts.

Note

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

9. Proceed application step according to the installation type.

Tips During s

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

Full installations:

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

Server Core installations:

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

Cd /d A:\

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

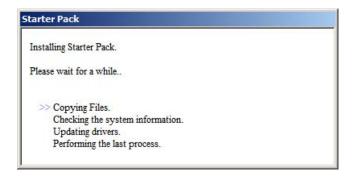
(2) Enter the following, and then press <Enter> key.

app_pkg.bat



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

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

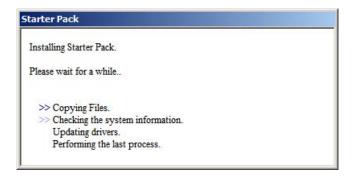


10. Read the message, and then click **OK**. Starter Pack installation starts.

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

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

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



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

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

Installation of Starter Pack is now complete.

4.5 Setting Up Device Drivers

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

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

4.5.1 Installing the LAN drivers and BACS (teaming utility)

(1) LAN drivers and BACS

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

Important WOL is supported by the standard network adapters only.

Note

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

(2) Optional LAN board

This server supports the following optional LAN boards.

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

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

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

1. Insert EXPRESSBUILDER DVD into the optical disk drive.

If Autorun Menu appears, close the menu.

Tips

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

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

When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\004\win\winnt\ws2008x64\r2\lan\intel

If Starter Pack was installed from Internal Flash Memory:

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

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

and then restart the system.

Installation Completed.		

Setup is now completed.

Note	 If the LAN driver has been installed in N8104-145, PROSet (Teaming utility) is also installed.
	 If an optional LAN board has been added, perform the procedure in "4.5.2 Setting up LAN drivers" for each optional LAN board.

(3) Network adapter name

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

Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:

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

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

Tips

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

4.5.2 Setting up LAN drivers

(1) Setting link speed

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

Tips

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

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

The link speed setting is now complete.

(2) Using N8104-128

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

Follow the procedure below to set it.

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

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

- 7. Complete steps 2 to 6 for each N8104-128 network adapter. Then, close the Broadcom Advanced Control Suite.
- 8. Insert EXPRESSBUILDER DVD into the optical disk drive. If the Autorun Menu appears, close the menu.

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

9. Double-click bhddisabled.vbs in the following folder.

When using EXPRESSBUILDER DVD:

Tips

EXPRESSBUILDER DVD:\004\win\winnt\ws2008x64\r2\lan\bcom\ws2008_r2\lan

- If Starter Pack was installed from Internal Flash Memory: System drive:\StartPKG\ws2008x64\r2\lan\bcom\ws2008_r2\lan
- 10. When the following message appears, click OK.

Black Hole Router Detect Disable Completed, Reboot the system

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

Setup is now completed.

(3) Using N8104-132/133/138

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

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

Tips

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

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

When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\004\win\winnt\ws2008x64\r2\lan\bcom\ws2008_r2\lan

If Starter Pack was installed from Internal Flash Memory:

System drive: $StartPKG ws 2008x 64 r^2 lan bcom ws 2008_r^2 lan$

3. When the following message appears, click **OK**.



Tips

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

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

Setup is now completed.

4.5.3 Setting up team/LiveLink (BACS)

Note

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

Check the following points when deleting an adapter team.

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

(1) Team types

The following team types are supported.

• Smart Load Balancing and Failover (without Standby Member)

All adapters that compose the team perform communication.

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

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

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

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

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

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

• FEC/GEC Generic Trunking

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

Important FEC/GEC mode requires switch support.

(2) LiveLink

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

Link packets are sent from each adapter within a team.

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

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

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

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

(3) Setting up team/LiveLink

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

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

Broadcom Advanced Control Suite 4 Eile View Action Filter Context Tools Teams (SCSI Help		
	s 🔽 Driver Information	
Explorer View	Information Configurations Diagnostic	es Statistics
🖻 888 Hosts	Property	Value
Create a <u>VLAN</u>	Vital Sizes Permanent MAC Address Permanent MAC Address Prv4 Address Offload Capabilities Offloa	
BROADCOM	<u>/</u>	

The Broadcom Teaming wizard appears.

3. Click Next.

<u>? ×</u>
BROADCOM.
s. To continue,
Preview 페

Note

Do not use Expert Mode.

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

Broadcom Teaming Wizard	<u> </u>
Creating/Modifying a Team: Team Name You must assign your team a unique name.	BROADCOM
Enter the name for the team:	
Team 1 ↓ A team name has a maximum length of 39 characters. The name can use a &&¥/*?◇ **	any symbolic character except
Cancel < Back Next >	Preview 📑

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

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

Note

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

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

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

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

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

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

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

ii Broadcom Teaming Wizard	<u>?</u> ×
Creating/Modifying a Team: Designating a Standby Member Do you want to designate an available adapter as a standby member?	BROADCOM.
_Optionally select if you want a standby member for the team	
Do not configure a standby member. (1)	
C Use the following member as a standby member:	
[D007] Broadcom NetXtreme Gigabit Ethernet	<u>×</u>
🔲 Enable Auto-Fallback Disable mode	
Qancel < Back Next > (2)	Preview

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

- (1) Select Use the following member as a standby member.
- (2) Select the adapter that is to be a standby member from the drop-down list.
- (3) Select Enable Auto-Failback Disable mode.

Important Do not support the operation when not select the Enable Auto-Failback Disable mode.

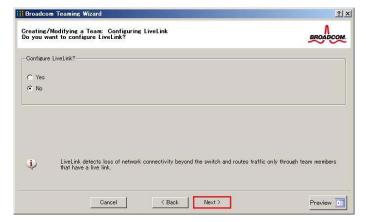
(4) Click Next.

iBroadcom Teaming Wizard Creating/Modifying a Team: Designating a Standby Member	<u>د ت</u> ۸
Do you want to designate an available adapter as a standby member?	BROADCOM.
-Optionally select if you want a standby member for the team.	
C Do not configure a standby member.	
• Use the following member as a standby member:	
[0008] Broadcom NetXtreme Gigabit Ethernet #2	
Enable Auto-Fallback Disable mode (3)	

Note

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.



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

Probe Interval (seconds)	2		
Probe Maximum Retries	5	-	
Probe VLAN ID (Optional: 0-4094)	0		
Target		IP Address	·
Probe Target 1 Probe Target 2 Probe Target 3			-
Tible Target 5			-
	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.

LiveLink Confi IP Setting	gurations	2
IF Setting		
Team Name	Team 1	
Target 1:	2000	
Target 2:		
Target 3:		
Target 4:		
Please enter e	ither an IPv4 or IPv6 address for the probe targets IP address	s field.
ОК	Cano	
UK	Canc	xel

Tips

- *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.
- If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified.

11. Click Next.

Probe Interval (seconds)	2	•	
Probe Maximum Retries	5		
Probe VLAN ID (Optional: 0-4094)	0		
Target		IP Address	
Probe Target 1 Probe Target 2			_
Probe Target 3			<u> </u>
Probe Target 3	Edit Targ	et IP Address_	

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

Target Members	IPv4 Address	IPv6 Address	
007] Broadcom NetXtreme Gigabit Ethernet	1 VY Hodress	n vo nuuross	
008] Broadcom NetXtreme Gigabit Ethernet #2			

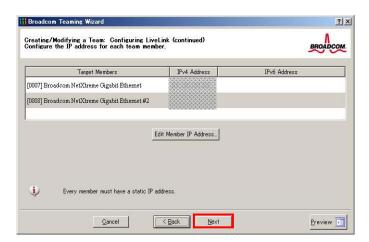
13. Enter the IP address used for LiveLink communication, and then click OK.

LiveLink Configu	Irations	×
IP Setting		-0
Name:	[0009] Broadcom BCM57810 NetXtreme II 10 GigE (NDIS VBD Client) #161	
IPv4 Address:		00000
IPv6 Address:		
ОК	Cancel	

Note

- Be sure to specify an IP address for LiveLink communication for all the adapters that compose the team. The address specified here is the IP address for LiveLink communication. Specify a different IP address for data communication.
- For *Target xx*, specify an IP address that is unique on the network and with which communication is possible.

14. Click Next.



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

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

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

	s! The Teaming Wizard has finished mation. How would you like to	BROADCOM
Margarian Inter	s nees to system and Exit the wizard ss and continue to manage more teams	
 Jave change 	ss and continue to manage more teams	

Note

When the message below appears, select Yes.

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

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

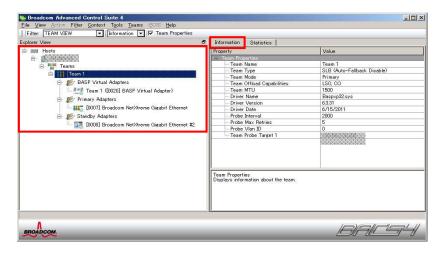
When all network adapters that configure the team are in the link down status, this is indicated as shown in the window below. Check the LiveLink settings while all adapters are linked up.

File View Action Filter Qontext Topols Learns SOSI Help Filter: TEAM VIEW Image: Social Science Scien	
Explorer View	8
Teams Teams Team 1 Team 1	

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

Broadcom Advanced Control Suite 4 <u>Eile View Action</u> Filter Context Tools Teams (2051 <u>H</u> elp		_
Elle View Anton Filter Context Tools Teams Soft Help Fritter (TEAM VIEW Frohrer View Frohrer View Frohrer View	Information Statistics Property Team Name Team Orborates Team Orborates Team Orborates Team Orborates Team Orborates Team Orborates Driver Name Driver Version Driver Version Driver Version Probe Interval Probe Interval Probe Nav: Retries Probe Target 1 Team Properties Team Properties	Value Teen 1 Simut Losd Balancing (TM) and Fallover 150, 00 Bascop32cys 6.331 6/15/2011 2000 5 0
впольсом	Displays information about the team.	

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



- FEC/GEC Generic Trunking

Broadcom Advanced Control Suite 4		
File View Action Filter Context Tools Teams iSCSI Help		
Filter: TEAM VIEW 🔹 Information 💌 🔽 Team Properties		
Explorer View	Information Statistics	
⊡- 000 Hosts	Property	Value
Posts Teams BASP Virtual Adapters BASP Virtual Adapters Primary Adapters Primary Adapters U0085] Broadcom NetXtreme Gigabit Ethernet #10 U0085] Broadcom NetXtreme Gigabit Ethernet #11 Unassigned Adapters	Team Name Team Name Team Type Team Offload Capabilities - Team MTU - Driver Name - Driver Version - Driver Date	Value Team 1 FEC/AEC LSO, CO, PSS 1500 Basp.pys 15.3 12/19/2011
Λ		
BROADCOM	Æ	

Team setup is now complete.

(4) Procedure for deleting team

Note

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

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

Stroadcom Advanced Control Suite 4	STREET, STREET	- 🗆 🗙
File View Action Filter Context Tools Teams iSOSI Help		
Filter: TEAM VIEW		
Explorer View	Information Statistics	
🗄 aaa Hosts	Property	Value
Teans	Team Properties Team Name Team Type Team Offload Capabilities Team MTU Driver Name Driver Version Driver Version Driver Version Probe Interval Probe Interval Probe Target 1	Team 1 Smart Load Balancing(TM) and Failover LSO, CO 1500 Besptp82.sys 6.331 6.75/2011 2000 5 6 0
Δ	Team Properties Displays information about the team.	

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

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

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

4. Double-click addlvlanstats.vbs in the following folder.

When using EXPRESSBUILDER DVD:

Tips

EXPRESSBUILDER DVD:\004\win\winnt\ws2008x64\r2\lan\bcom\ws2008_r2\lan

If Starter Pack was installed from Internal Flash Memory:

System drive:\StartPKG\ws2008x64\r2\lan\bcom\ws2008_r2\lan

5. When the following message appears, click **OK**.



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

Team deletion is now complete.

4.5.4 Setting up team (PROSet)

(1) Team types

The following team types are supported.

- Adapter Fault Tolerance (AFT) is a feature that creates a group containing and automatically converts the process of the working adapter to the other adapter in the group when any trouble occurred on that adapter.
- Adaptive Load Balancing (ALB) is a feature that creates a group containing more than one adapter and enhances the throughput by operating packet transmission from the server by all the adapters. This feature includes AFT feature.
- Switch Fault Tolerance (SFT) is a feature that provides a failover relationship between two ports when each port is connected to a separate switch. SFT supports two ports per team.
- Static Link Aggregation (SLA) accounts for the GEC and 802.3ad static protocols. SLA is a switch-assisted teaming mode and requires configuring ports at both ends of the link: server interfaces and switch ports.

Ν	o	te

- Static Link Aggregation (SLA) requires switch support.
- The adapters specified as a group of Adaptive Load Balancing (ALB) can only be connected to the switching hub.
- Confirm that the setting of the switching hub (L2) port matches the setting of the server network adapter teaming mode.
- For how to delete an adapter team, refer to Chapter 1 (4.5.4 Setting up team (PROSet) (3) Procedure for deleting team).

Check the following points when deleting an adapter team.

- When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
- If a team exists, delete the team first. If the team is bound to a Hyper-V virtual adapter, unbind the Hyper-V adapter before deleting the team.

(2) Setting up team

 Important
 Possible combinations of network adapters that compose the team are as follows.

 When the number of adapters that composes the team is up to four:
 –

 Between N8104-145 adapters

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

On the Settings tab, click Modify Team button.

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

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

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

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

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

(3) Procedure for deleting team

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

4.5.5 Graphics accelerator driver

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

Tips

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

To reinstall drivers separately, complete the following steps.

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

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

- 2. On the Start menu, point to All programs, Accessories, and then select Explorer.
- 3. Double-click the install.bat icon in the following folder.
 - When using EXPRESSBUILDER DVD: EXPRESSBUILDER DVD:\004\win\winnt\ws2008x64\video
 - If Starter Pack was installed from Internal Flash Memory: System drive:\StartPKG\ws2008x64\video

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

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

Graphic accelerator driver installation is now complete.

4.5.6 When using a SAS controller (N8103-142)

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

4.5.7 When using a RAID Controller (N8103-161)

The driver for RAID Controller N8103-161 is automatically installed by Windows Plug-and-Play.

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

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

4.6 License Authentication

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

The following describes the license authentication procedure.

(1) Full installations

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

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

Pul computer name: WDHRDBHQR3SEQ4 Computer fastroption: Workgroup: WORKCROUP Winders activated Winders is activated Preduct 3b: socionacersocioon/socion	Control Penel +	System and Security + System		* 😰 Search C
	Control Panel Home	View basic information abo	ut your computer	
	Device Manager	Windows edition		
Advanced system settings Copyright © 2009 Microsoft Corporation: All rights reserved. System Processor: Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) Intel®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) INTEl®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) INTEl®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) INTEl®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) INTEL®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) INTEL®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) INTEL®(X) Keen@(I) CPU ESSON @ 2.13042 2.13 Get Installed memory (UAM) INTEL®(X) Keen@(I) CPU ESSON @ 2.13042 E		Windows Server 2008 R2 5	tandard	0
Processor: Intel®(V) Seer(V) CPU ESSOR (0.2.13 GHz 2.13 GHz Installed memory (MAM): 4.00 GB System type: 6454 Ciberatro System Per and Touch: No PAn or Touch Input is available for this Display Computer name: WVR-604QR-9055C24 Full computer name: WVR-604QR-9055C24 Camputer name: WVR-604QR-9055C24 Camputer name: WVR-604QR-9055C24 Camputer name: WVR-604QR-9055C24 Workson activation Workson activation Windows is activated Product ID: soccorroscoccorroscocc		Capyright © 2009 Microsoft	t Corporation. All rights reserved.	
brokkel remover (IUAP): 4.05 GB System type: 64bb Coerating System Pen and Tax/time type: 84bb Coerating System Pen and Tax/time Tax/time type: 84bb Coerating System Computer name; domain, and workgroup settings Computer name; W1460645QB StQ4 Camputer settings Camputer settings Camputer settings Workgroup: W06056270.0P Windows at Saturated Windows is activated Windows is activated See also			Intel(R) Xeon(R) CPU E5506 (8 2, 130Hz - 2, 13 GHz	
Pen and Touch: No Pen or Touch Eput is available for this Display Computer name: Workgroup settings Computer name: WORKCROUP Full computer name: WORKCROUP Workgroup: WORKCROUP		Installed memory (RAM):		
Computer name, doward, and workgroup settings - Computer name, doward, and workgroup settings - Computer name, WIXH-GORYQR35CQ4 Computer name, WIXH-GORYQR35CQ4 Computer name, WIXH-GORYQR35CQ4 Uniform activation Windows is activated Windows is activated See also		System type:	64-bit Operating System	
Computer name: W3P4-0094QR32Q4 © Chance settin Full computer name: W3P4-0094QR32Q4 Computer designation: Werkgroup: WCR32D0LP Windows atchalton Windows ta chuston Windows to Exclusted See also		Pen and Touch:	No Pen or Touch Input is available for this Display	
Ful computer name: W3V4:094QR3501 Computer describation: Windews activation: Windews activation: Windews is activated Preduct ID: social concentrations		Computer name, domain, and w	orkgroup settings	
Camputer description: Windignes: WCRISCROUP Windigne activation Windigne activated Product ID: scores account acco		Computer name:	WIN-ROSHQKRSEQ4	Change settings
Workgroup: WORKCROUP Windows activation Windows ta activated Product ID: Inconnectionsensesses See also		Full computer name:	WITN ROSHQIR SEQ4	
Windows activation Windows is activated See also Product ID: socio-socio-socio-		Computer description:		
Windows is activated See also Product ID: conservations		Workgroup:	WORKGROUP	
See also Produit ID: socio-recensioner socio-		Windows activation		
See also		Windows is activated		akter -
See also	10.012.0	Product ID: 200000-2002-200	0000-32003	genuine
Action Center Learn more onl				Hofmone.
Windows Update				Learn more online

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

When the following window appears, click Change product key.

Gold - canaran -	System and Security - System		Search Control Panel	
honic a to resolution	FROM DUBIC INFORMATION SHOP	ac your comparer		
Control Panel Home	Windows edition	and the		
Device Manager	Windows Server 2008 R2 58	andard		
Remote settings	Copyright @ 2009 Microsoft	Corporation. All rights rese	rved.	
Advanced system settings				
			- h-	M
				-
	System			
	Processor:	Intel(R) Xeon(R) CPU	ESS06 @ 2.13GHz 2.13 GHz	
	Installed memory (RAM):	4.00 GB		
	System type:	64-bit Operating System		
	Pen and Touch:	No Pen or Touch Input is	available for this Display	
	Computer name, domain, and w	orkgroup settings		
	Computer name:	WIN-ROGHQKR SEQ4	8	Change settings
	Full computer name:	WIN-ROSHQKR5EQ4		
	Computer description:			
	Workgroup:	WORKGROUP		
See also	Windows activation			
Action Center Windows Update	🕺 2 days until automatic a	sctivation. Activate Windows	now	

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

٩w	indows Activation	×
0	🎋 Windows Activation	
	Type your product key	
	The Windows Server 2008 R2 Standard product key can be found on the installation disc holder inside the Windows package. Activation will register the product key to this computer.	
	The product key looks like this:	
	PRODUCT KEY: XXXXXX-XXXXXX-XXXXXX-XXXXXX	
	Where do I find my Windows product key?	
	Product Key:	
	What is activation?	
	Read the privacy statement online	
	Next Cancel	1

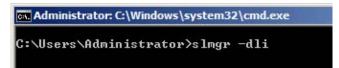
4. Follow the instructions in the following message to start the license authentication process.

Windows Activation	3
🕅 Windows Activation	
How do you want to activate Windows?	
Use my modem to connect directly to the activation service (recommended if you have a modem)	
Use the automated phone system	
What is activation?	
	Cancel
What is activation?	Cancel

Windows activation is now complete.

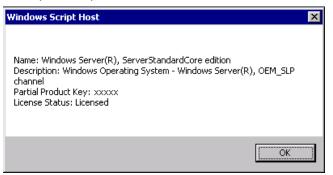
(2) Server Core installations

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



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

to complete this procedure. Click OK to finish.



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

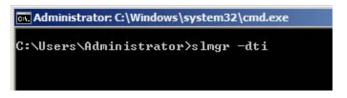
At the command prompt, enter the following, and then press <Enter> key. Set the product key found on the COA label in *PID*.

slmgr -ipk PID



3. Obtain an installation ID for Windows activation.

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



- 4. Reference <code>%systemroot%\system32\sppui\phone.inf</code> for the telephone number of the license authentication customer service.
- 5. Call the above number, inform the representative of the installation ID which you obtained in step 3, and receive a confirmation ID.
- 6. Type the confirmation ID you received in step 5.

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



Windows activation is now complete.

4.7 Applying Service Pack

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

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

4.8 Installing the Applications

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

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

Autorun N	Menu	Version 7.00-000.00 (000)
	Instruction Manual	
0	Versions	
	Integrated Installation	\supset
	Applications	
M	Exit	

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

	applications if your system have not installed Starter Pack. n if you want to reinstall it.	
	The you want to relicitant it.	
C Starter Pack		
 Applications 		
R NEC ESMPR	RO Agent	
Express Re		
	port Service(HTTPS)	
I Universal R		
	o Collection Utility	
I ExpressUp	date Agent	

Note

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

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

The selected applications are automatically installed.

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

Now installation of applications is completed.

4.9 Installation When Multiple Logical Drives Exist

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

(1) Installation process

- Setup with EXPRESSBUILDER

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

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

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

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

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

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

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

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

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

Tips

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

(2) Changing drive letter assignments

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

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

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

8. Close the Server Manager.

5. Setting Up Windows Server 2008

Set up Windows Server 2008.

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

Hard	lware o	configuration
		The following hardware configurations require special procedures.
EB	OS	Reinstalling to a mirrored volume When you install Windows Server 2008 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.
EB	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	Connecting to multiple hard disk drives (logical drives) For details on installing operating systems to a system in which multiple logical drives exist, refer to <i>Chapter 1</i> (5.10 Installation When Multiple Logical Drives Exist).
EB	OS	Reinstalling to hard disk drives that have been upgraded to dynamic disks If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be reinstalled to it with the existing partitions. Set up the operating system with the Windows standard installer.

-		
EB	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.
		 Set the system partition size to a size sufficient to install the OS and paging file. Specify another disk as the destination to store the debug information (required dump file size) by referring to <i>Chapter 1 (6. Setup for Solving Problems).</i>
		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.
		 Specify a drive other than the system drive for "Dedicated Dump File". Create the registry shown below by using the Registry Editor and specify the name of
		When specifying the file named "dedicateddumpfile.sys" in drive D>
		Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
		Name: DedicatedDumpFile
		Type: REG_SZ
		Data: D:\dedicateddumpfile.sys
		Note the following when specifying Dedicated Dump File:
		Pay strict attention to edit the registry.
		The setting is applied after restarting the system.
		• Specify a drive that has free space of "installed memory size + 300 MB" or more.
		Dedicated Dump File cannot be placed in dynamic volumes.
		 To collect memory dump by using Dedicated Dump File, a paging file is required in any drive.
		 Dedicated Dump File is only used for collecting memory dump, and is not
		used as virtual memory. Specify the paging file size so that sufficient virtual
		memory can be allocated in the entire system.

Size required to install the $OS + paging$	ated by using the following formula.	
Size required to instan the CO + paging	file size + dump file size + application size	
Full installations		
Size required to install the OS	= 16,720 MB (Windows Server 2008 + Service Pack 2 DVD-ROM)= 12,300 MB	
	(Windows Server 2008 with Service Pack 2) = 11,600 MB	
	(Windows Server 2008)	
Paging file size (recommended)	= installed memory size \times 1.5	
Dump file size	= installed memory size + 300MB	
Application size	= as required by the application	
Server Core installations		
Size required to install the OS	= 9,300 MB	
	(Windows Server 2008 + Service Pack 2 DVD-ROM) = 12,300 MB	
	(Windows Server 2008 with Service Pack 2)	
	= 4,100 MB	
	(Windows Server 2008) = installed memory size × 1.5 = installed memory size + 300MB = as required by the application	
Paging file size (recommended)		
Dump file size		
Application size	= as required by the application	
For example, if the installed memory size partition size is calculated as follows:	\div is 1 GB (1,024 MB) and Full installations is selected, the	
11,600 MB + (1,024MB × 1.5) + 1,02	24MB+ 300MB+ application size	
11,000 mB (1,02 mB × 1.0) 1 1,02		
-14.460 MB \pm application size		
= 14,460MB + application size		
The above mentioned partition size is th	e minimum partition size required for system installation.	
The above mentioned partition size is th Ensure that the partition size is sufficient	for system operations.	
The above mentioned partition size is th Ensure that the partition size is sufficient Note • The above paging fill information (dump file). must be large enough to	for system operations. e sizes are recommended for collecting debug The initial size of the Windows partition paging file o store dump files.	
The above mentioned partition size is th Ensure that the partition size is sufficient Note • The above paging fill information (dump file). must be large enough to Make sure you set a sufficient	for system operations. e sizes are recommended for collecting debug The initial size of the Windows partition paging file o store dump files. fficient paging file size. If the paging file is insufficient, emory shortage that may result in an inability to collect	
The above mentioned partition size is th Ensure that the partition size is sufficient Note • The above paging fill information (dump file). must be large enough to Make sure you set a sufficient there will be a virtual me correct debug information • Regardless of the sizes	for system operations. e sizes are recommended for collecting debug The initial size of the Windows partition paging file o store dump files. fficient paging file size. If the paging file is insufficient, emory shortage that may result in an inability to collect	
The above mentioned partition size is th Ensure that the partition size is sufficient Note • The above paging fill information (dump file). must be large enough to Make sure you set a sufficient there will be a virtual me correct debug informatio • Regardless of the sizes maximum size of the dumental strength	for system operations. e sizes are recommended for collecting debug The initial size of the Windows partition paging file o store dump files. fficient paging file size. If the paging file is insufficient, emory shortage that may result in an inability to collect on. of internal memory and write debug information, the mp file is "size of internal memory + 300 MB". pplications or other items, add the amount of space	

The system partition size can be calc	ulated by using the following formula.
Size required to install the OS + pa	ging file size + dump file size + application size
Full installations	
Size required to install the OS	= 9,400 MB
	(Windows Server 2008 + Service Pack 2)
	= 9,300 MB
	(Windows Server 2008 with Service Pack 2)
	= 6,300 MB
Paging file size (recommended)	(Windows Server 2008) = installed memory size × 1.5
Dump file size	= installed memory size + 300MB
Application size	= as required by the application
Server Core installations	
Size required to install the OS	= 5,300 MB
	(Windows Server 2008 + Service Pack 2)
	= 9,300 MB
	(Windows Server 2008 with Service Pack 2)
	= 2,200 MB
Paging file size (recommended)	(Windows Server 2008) = installed memory size × 1.5
Dump file size	= installed memory size + 300MB
Application size	= as required by the application
partition size is calculated as follows:	ize is 1GB (1,024 MB) and Full installations is selected, th
partition size is calculated as follows:	ize is 1GB (1,024 MB) and Full installations is selected, th 4 MB + 300 MB + application size = 9,160 MB + applicatio
partition size is calculated as follows: 6,300 MB + (1,024 MB × 1.5) + 1,02 size	4 MB + 300 MB + application size = 9,160 MB + application the minimum partition size required for system installation
partition size is calculated as follows: 6,300 MB + (1,024 MB × 1.5) + 1,02 size The above mentioned partition size is Ensure that the partition size is sufficient Note • The above paging fininformation (dump file) be large enough to stop file size. If the paging shortage that may rest	24 MB + 300 MB + application size = 9,160 MB + application the minimum partition size required for system installation ent for system operations. It is sizes are recommended for collecting debug to The initial size of the boot volume paging file must re dump files. Make sure you set a sufficient paging g file is insufficient, there will be a virtual memory ult in an inability to collect correct debug information.
 partition size is calculated as follows: 6,300 MB + (1,024 MB × 1.5) + 1,02 size The above mentioned partition size is Ensure that the partition size is sufficient Note The above paging fi information (dump file) be large enough to stor file size. If the paging shortage that may result is shortage that may result if the message promp appears, specify 4095 If the mounted memory 	 44 MB + 300 MB + application size = 9,160 MB + application the minimum partition size required for system installation ent for system operations. le sizes are recommended for collecting debug The initial size of the boot volume paging file must re dump files. Make sure you set a sufficient paging g file is insufficient, there will be a virtual memory ult in an inability to collect correct debug information. 4096 MB or greater cannot be specified for one m configurations. thing you to specify a value smaller than 4096 MB MB. y size is 2 GB or greater, the maximum size of the
 partition size is calculated as follows: 6,300 MB + (1,024 MB × 1.5) + 1,02 size The above mentioned partition size is Ensure that the partition size is sufficient formation (dump file) be large enough to stor file size. If the paging shortage that may rest solver appears, specify 4095 If the mounted memorid dump file is "2048 MB" 	 44 MB + 300 MB + application size = 9,160 MB + application the minimum partition size required for system installation ent for system operations. le sizes are recommended for collecting debug The initial size of the boot volume paging file must re dump files. Make sure you set a sufficient paging grile is insufficient, there will be a virtual memory ult in an inability to collect correct debug information. 4096 MB or greater cannot be specified for one m configurations. to specify a value smaller than 4096 MB MB. y size is 2 GB or greater, the maximum size of the + 300 MB".

Usin	g BitLo	ocker
		 If using BitLocker, note the following. Before installing an OS, be sure to create the following two partitions in the hard disk drive: System partition (to store the loader) Boot partition (to store the OS)
		Note For details, refer to the following document provided in Microsoft TechNet: BitLocker Drive Encryption Step-by-Step Guide • Be sure to keep the recovery password secure. Do not keep it near a server running BitLocker.
EB	08	Important If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any more.
		The recovery password might be required at startup of the OS after the following: - Replacement of motherboard - Initialization of trusted platform module (TPM) - Change of BIOS setting
		 To reinstall the operating system into a partition that is encrypted with BitLocker, delete the BitLocker-encrypted partition prior to reinstallation.
Insta	Illing S	ervice Pack
EB	05	 If the OS installation media contains Service Pack 2, you do not need to apply the service pack again. You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself.
Licer	nse aut	thentication
		License authentication is required depending on the installation of Windows. For details, refer to <i>Chapter 1 (5.7 License Authentication)</i> .
EB	OS	 Note Activate within 30 days following installation. A virtual product key is used when installing in a virtual environment. It is not used when directly installing an operating system to a physical server.

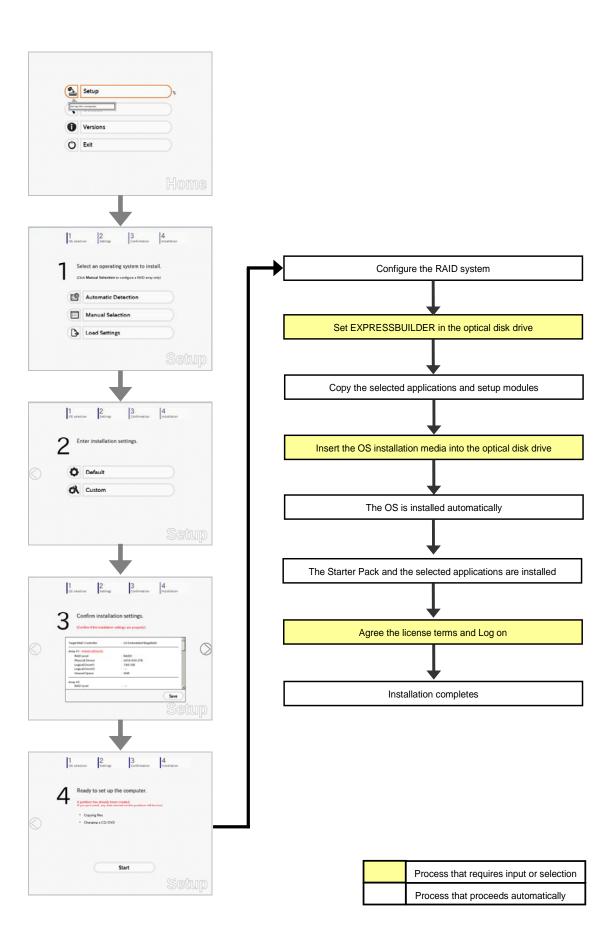
5.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

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

5.2.1 Setup flow



5.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

Tips

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

5.2.3 Setup procedure

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

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

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

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

Boot selection	
OS installation default Tool menu (Nernal mode) Tool menu (Redirection mode)	
Automatic hoot in 10 seconds	

The following window appears.



The server starts from EXPRESSBUILDER.



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

	を選んでください。	
D 日本語 D Français		
	ок	

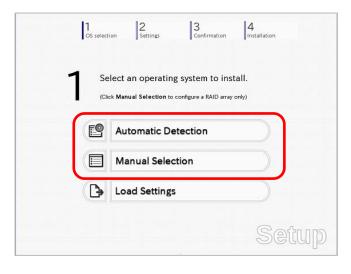
5. Click Setup.

	Setup	₽
-	the computer.	
0	Versions	
O	Exit	

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

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

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



To automatically detect the OS on the OS installation media:

(1) Click Automatic Detection.

1 Settings 3 Confirmation	4 Installation
Select an operating system to inst (Click Manual Selection to configure a RAID array of	
Automatic Detection	<i>s</i>
Select an operating system disc. Load Settings	
	Setup

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

 ana at ao managana	the state of the second state	8 9
To check your OS installa		he computer. essage ID : B2014]
 ОК	Cancel	

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

	lect an operating system to insta	
(Cli	ck Manual Selection to configure a RAID array or	ıly)
¥ 🕑	Automatic Detection	
	Manual Selection	
	Load Settings	

To select an OS from the menu:

(1) Click Manual Selection.

1.000	lect an operatin		
(Clic	k Manual Selection to	configure a RAID array	only)
Ľ	Automatic De	etection	
	Manual Selec	tion	Ø
You can the insta	select the target OS of allation from the menu.		

(2) From the **Windows** list, select the OS to install and then click **OK**.

Windows Server 2008 x86	
O VMware O RAID Configuration Only	

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

-	6.	lest on analyting system to install
		elect an operating system to install.
Ī		
	E	Automatic Detection
~		Manual Selection
	₽	Load Settings

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

1 OS select	on Settings Confirmation	4 Installation
	lect an operating system to insta	
	Automatic Detection	
	Manual Selection	
Þ	Load Settings	D ⁶
Load in	stallation settings.	Setup

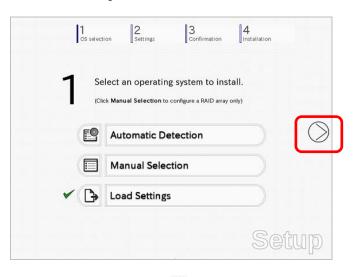
Follow the on-screen instruction to load the parameter file (*.tre).

Places	Name Concorrenti	Modified Treesday
File System	D usb1	Unknown
Add = Bern	ove	-
		X Cancel

Tips

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

Click \bigcirc on the right side of the screen.



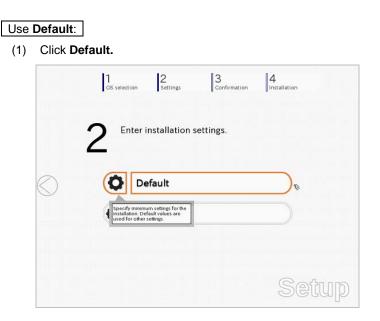
On the following screen, click \bigcirc on the right side of the screen. Click **Custom** to check and modify the setting in the wizard.

2	Enter installation settings.	
C	Default	
< Q	Custom	

 \rightarrow Go to step 10.

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

2 Enter installation	n settings.
Default	
Custom	
Custom)



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

Operating system	Self of the Providence of the second			
	Windows Serv	ver 2008 x86		
Edition	Standard(Full	Installation)		
Language	English -			
Typing Administrator P	assword			
Administrator Passw	ord	:	Requ	ired)
				0
	Language -Typing Administrator P Administrator Passw		Language : Englishiv Typing Administrator Password Administrator Password :	Language : English Typing Administrator Password Administrator Password :

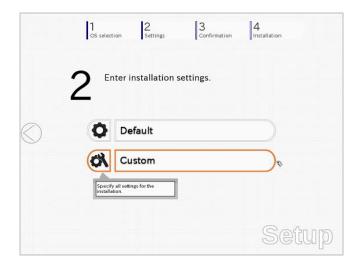
(3) Click \bigcirc on the right side of the screen.

1 OS selecti	on Settings	3 Confirmation	4 Installation	
2 "	ter installation s	settings.		
~ 0	Default			C
Ø	Custom			
			Set	up

 \rightarrow Go to step 10.

Use Custom:

(1) Click Custom.



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

Guide" when creating RAID10.

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

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

Wizard Install an operating system to the drive connected to the following RAID controll if the RAID controller is not correct, check the hardware configuration. Device Information RAID Controlle : LSI Embedded MegaRAID Detail Number of Physical Device ummary of RAID A Array #1 RAID0 (1disk) Logical Drive1 (1861GB) RAID Configuration Skip a RAID Configuration 1 / 10 Page Next Cancel

When creating new logical drives

Note

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

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

When skipping the creation of new logical drives

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

(3) Check the settings specified for Basic Settings.

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

Install Windows by using the s Windows standard installe You can install easily both Win EXPRESSBUILDER.	f,			1. 1896 (n. 1996) (n. 1997)
Operating system	Wind	lows Server 2008 x8	16	
O Use Windows star	idard installer			
E Copy CEM an	vers to removable me	dia		
Install Windows usi	ng EXPRESSBUILDER	2		
Edition	Standard(Full	Installation)		
Language	English 🔻			
Time zone	(UTC-08:00)	Pacific Time (US & Ca	mada)	
				4 / 10 Page
Back	Next			Cancel

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

syste	ows will be installed in m partition is 2TB.	system partition for W ito the first hard disk d sting partition, shown	rive or logical drive. T	he maximum partition size for the e deleted.
Cum	ent Partitions (the area sh	iown with a red frame wil	l be deleted)	
	Free Space (278GB) arbtion Settings Create a new partiti O Use all space O Type a partitio	on size :	40] (GB) 40GB / Recommend	*11B-1024G8 d 40G8 / Masimum 278G8)
				5 / 10 Page

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

- Partition size
 - Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (5.1 Before Starting Setup)*.)
 The maximum partition size is 2,097,152 MB.
- If you select "Create a new partition" under "Partition Settings", the entire contents of the hard disk drive will be deleted.

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

	within 15 characte rd requires mor	rs. e than 6 characters, and i s (numbers/uppercase/lo	
User information			
Computer name		: 🗹 Auto	
		1-1993-0123456	(Required)
User name		: Administrator	
Administrator Pas	sword	2	(Required)
Reenter Administr	ator Password	B	(Required)
			6 / 10 Page
	2		

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

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

vork protocols © Standard settings O Custom settings	
Standard adapter - Internet Protocol (IPv4)	
7 / 10	Page
7 / 10	

Tips

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

Note

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

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

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

Choose Workgroup or Doma	or a workgroup. ain, and then enter	r parameters.	
Join a workgroup		WORKGROUP	
Workgroup name		HORROROUP	
Domain name	2		
Account name	1		
Password			
Reenter password	1		
			8 / 10 Page

(8) Check the settings of Windows components.

Modify the settings as needed, and then click Next.

	Choose Windows components you want to ins	tall.		
-	- Server roles		-	
	Web server(IIS)	Print and Document services		
	DHCP server	File services		
	DNS server	Hyper-V		
-	Windows features			
	SNMP service	Advanced		
\geq	Simple TCP/IP services			
	WINS server			
		9 / 10 Page		
	Back Next	Cancel	_	
L			5	
		SEII		Full installation

-Server roles		
Web server(IIS)	Print and Document service	s
DHCP server	File services	
DNS server	Hyper-V	
Windows features		
SNMP service		Advanced
WINS server		ranarooa
		9 / 10 Page

Server Core installations

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

Choose applications you want to install. For details about each application, see Descr	ription.
List of applications	Selected applications
×	NEC ESMPRO Agent
	Express Report Service
	Add >> Express Report Service(HTTPS) Universal RAID Ubility
	<< Delete ExpressUpdate Agent
- Description -	
	10 / 10 Page
Back Finish	Cancel

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

	US select	ion 2 3 Settings Confirmation	4 Installation
	2 "	iter installation settings.	
)	Ø	Default	
	× 01	Custom	

10. Check the parameter settings.

To save the settings, click Save.

	2 Confirm installation	on settings.	
	(Confirm if the installation se	attings are properly)	
_			
)	Skip a RAID configuration.		
	Operating system	: Windows Server 2008 x86	
	(Install Windows using EXPRESSBUILD		
	Edition Language	: Standard(Full Installation) : English	
			Save
			(Anno

Click \bigcirc on the right side of the screen.

11. The setup process starts.

Click Start to continue setup.

	1 2 3 Settings Confirmation 4 Installation
\bigcirc	Ready to set up the computer. A partition has already been created if you proceed, any data stored on the partition will be lost. Configuring RAID system Copying files Changing media
	<u>start</u> Setup

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

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

	Insert EXF	PRESSBUILDER			
			[Message II) : J2002]	
0					

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

3 Sel	ection				_
		OS installation disc.	1922-12		
		o proceed to the aut nutes until completion			
	Do not use	e the mouse and keyl		etup until the	
	prompt scr	reen appears.			
6	2		[Me	ssage ID : J2004]	
		ок	Cancel		
		Uh	Carices		

Windows Server 2008 is installed automatically.

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

Installing Starter Pack.	
Please wait for a while.	
	Correct displayed where Otester Deply is being installed
	Screen displayed when Starter Pack is being installed
Installing applications.	
Please wait for a while.	
	Screen displayed when an application is being installed

15. When the software license agreement window appears, select **I accept the license terms**, and then click **Next**.

Please	read the license terms
MICR	DSOFT SOFTWARE LICENSE TERMS
MICR	DSOFT WINDOWS SERVER 2008, STANDARD
where softwa	license terms are an agreement between Microsoft Corporation (or based on you live, one of its affiliates) and you. Please read them. They apply to the re named above, which includes the media on which you received it, if any. The also apply to any Microsoft
٥	updates,
٥	supplements,
٥	Internet-based services, and
п	sunnort services
lacc	ept the license terms

16. When the message "Thank you" appears, click Start.

Set Up Windows	dows	
	Thank you	

Tips

It may take several minutes until the logon window appears. Wait until it appears, even though nothing changes on the screen.

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



Full installations:

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



Server Core installations:

When the following screen appears, click Other User.

	Other User	
0	Cancel Windows Server 2008 Standard	

When the following screen appears, enter administrator into **User** text box and the specified password into **Password** text box, and then click **S**.



18. Click **OK**.

The Setup v	with EXPRESS	BUILDER ha	as been succ	essfully comp	leted.	
						ОК

- 19. Follow the instructions described in *Chapter 1 (5.5 Setting Up Device Drivers)* to set up the device drivers supplied with this server as standard.
- 20. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 21. Apply Service Pack as needed according to Chapter 1 (5.8 Applying Service Pack).
- 22. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with EXPRESSBUILDER is now complete.

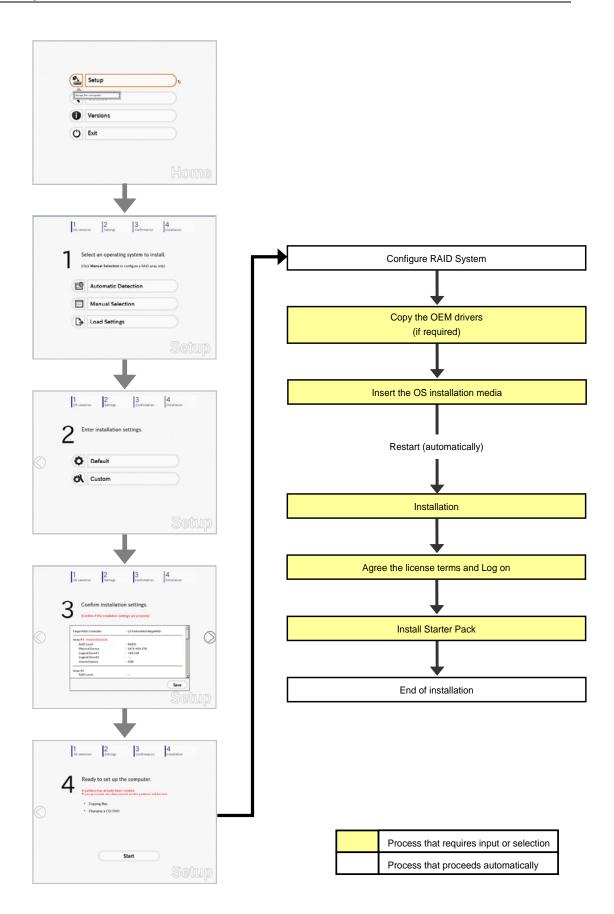
5.3 Setup with Windows Standard Installer

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

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

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

5.3.1 Setup flow



5.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

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

Note	OEM driver is required when using the onboard RAID controller (LSI Embedded MegaRAID) on the server equipped with internal optical disk drive.
Tips	 EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
	 If you are using a server with Internal Flash Memory installed, you can install the OS without using the EXPRESSBUILDER DVD.
	 OEM drivers are required in the following cases. Prepare other removable media should these conditions apply.
	Is the built-in optical disk drive used for installation in an onboard RAID Controller (LSI Embedded MegaRAID) environment?
	Yes No
	↓
	Does the server have Internal Flash Memory?
	No Yes
	The OEM drivers must be created. The OEM drivers do not need to be created.

5.3.3 Setup procedure

Note

Before starting setup, refer to *Chapter 1 (5.1 Before Starting Setup)*. It describes how to make partitions.

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

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

The following window appears.

	Starting EXPRESSBUILDER	
Ţ	•	

The server starts from EXPRESSBUILDER.



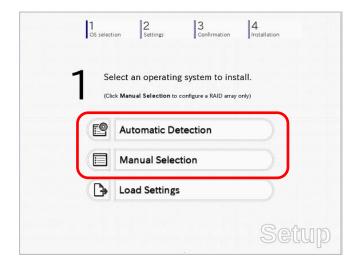
4. Select English on the language selection window, and then click OK.



5. Click Setup.

Set up t	Setup	8
•	Versions	
Ċ	Exit	

- 6. On the **OS selection** menu, select the OS to install or specify the parameter file.
 - \Box When not using parameter file : Go to Step 7.
 - \Box When using a parameter file \qquad : Go to Step 8.
 - **Note** When setting up again, an already saved parameter file can be read, so that you can skip inputting parameters in the wizard.
- 7. When not using a parameter file, select an OS by either of the following two ways:



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

1 se	elect an operat	ing system to i	nstall.	
(CI	ick Manual Selection	to configure a RAID a	ray only)	
e	Automatic [Detection		ø
Select autom disc.	an operating system atically with an installation	tion		
B	Load Settin	gs		

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

[OS si Question	election	2 Settings	3 Confirmatio	n Ainstallatio	n
		To check y	our OS installatio	on disc, insert it into [N	the computer. lessage ID : B2014	i)
	2					
		_	ОК	Cancel	1	_
L		_	UK	Cancel	S	etur

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

1		lect an operating system to install.	
	(Clic	k Manual Selection to configure a RAID array only)	
-	6	Automatic Detection	
		Manual Selection	
	B	Load Settings	

To select an OS from the menu:

(1) Click Manual Selection.

1.1.1	lect an operating system to	
e	Automatic Detection	
	Manual Selection	<i>e</i>
You can the insta	select the target OS of Illation from the menu	
		Setup

(2) From the Windows list, select the OS to install and then click \mathbf{OK} .



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

1	Se	lect an operating system to insta	II.
	(Clie	:k Manual Selection to configure a RAID array on	ly)
(P	Automatic Detection	
•		Manual Selection	
	B	Load Settings	

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

	elect an operating system to install. ck Manual Selection to configure a RAID array only)
e	Automatic Detection
	Manual Selection
B	Load Settings
Load in	sstallation settings.

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

Places	Name	▼ Modified
S File System	🗁 usbl	Unknown
·		
♣ <u>A</u> dd = <u>B</u> on	nove	-
		X Cancel

Tips

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

Click \bigcirc on the right side of the screen.

	elect an operating system to install.
e	Automatic Detection
	Manual Selection
< B	Load Settings

On the following screen, click \bigcirc on the right side of the screen. Click **Custom** to check and modify the setting in the wizard.

	1 os select	ion 2 3 Confirmation	4 Installation
	2 "	ter installation settings.	
)	Ø	Default	
	~ Ø	Custom	
			Setup

 \rightarrow Go to step 10.

9. Click Custom.

	2	nter installation settings	•
)	0	Default	
	Spec	Custom	<i>s</i>
	Instan	anon.	Setup

Note

If you click **Default**, setup with EXPRESSBUILDER is selected. Click **Custom** to setup OS with Windows standard installer.

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

Note

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

If the RAID controller is not co	опесь, спеск ше	naruware conliguration.	
Device Information			
RAID Controller		: LSI Embedded MegaRAID	Detail
Number of Physical De	vices	: 1	
-Summary of RAID			
Array #1 RAIDO (1disk) Logical Drive1 (18610	3B)		
RAID Configuration			
Skip a RAID Config	uration		
			1 / 10 Page

When creating new logical drives

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

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

When skipping the creation of new logical drives

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

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

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

Windows You can in	s standard install	er.	ntained in the OS inst		
111111	Settings perating system	: W	indows Server 2008	x86	
•	Use Windows sta	indard installer rivers to removable r	nedia		
	Install Windows us Edition Language Time zone	English	ull Installation)	Canada)	×
					4 / 10 Page
	Back	Next			Cancel

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

2 Enter installation s	ettings.
Default	
Custom	

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

	installation settings.	
≺	inotaliant of the bottom	
(Confirm if th	e installation settings are properly)	
Target RAID Controlle	er : LSI Embedded MegaRAID	-
		(
Array #1 : Initialized(
RAID Level	: RAIDO	
Physical Device		_
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.

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

	1 2 3 4 OS selection Settings 3 Installation
	Ready to set up the computer.
	If you proceed, any data stored on the partition will be lost.
	 Configuring RAID system
$\langle \rangle$	 Copying OEM drivers
\bigcirc	* Changing a CD/DVD
	 Installing an OS
	Start
	Setup

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

Continue setup according to the on-screen messages.
 When copying the OEM driver, the following message appears.

Insert the removable media into the disk drive, and then click Yes.

	Copy OEM drivers (Windows Server 2008).
	Set removable media, and then click Yes .
	[Message ID : G2000]
9	

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

Insert an OS	5 installation disc f		Message ID : J2000	1
		ı	message ID . J2000	1
e.				

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

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

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

14. Run from the OS installation media.

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

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

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

This step is unnecessary if no bootable operating system exists.

15. When the following window appears, click **Next** at default settings.

No Install Windows	
Windows Server 2008	
Languag <u>e</u> to install: English	
Time and currency format: English (United States)	
Keyboard or input method: US	
Copyright © 2007 Microsoft Corporation. All rights reserved.	<u>N</u> ext

16. Click Install Now 😂.

Windows Server 2008 installation starts.



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

driver your com you have a CD, I				USB or Hard dis lease insert it
he installation n y remove it for t	ndows is in t	the DVD d	rive or on a	USB drive, you
	Brow		OK	Cancel

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

If using OEM drivers (made at step 12)
- Windows Server 2008 64-bit Edition
Removable media:\OEM_driver\ws2008x64\megasr1
 Windows Server 2008 32-bit Edition
<i>Removable media</i> :\OEM_driver\ws2008\megasr1
If using Internal Flash Memory
 Windows Server 2008 64-bit Edition
Internal Flash Memory:\004\win\winnt\oemfd\ws2008x64\megasr1
 Windows Server 2008 32-bit Edition
Internal Flash Memory:\004\win\winnt\oemfd\ws2008\megasr1
Tips The volume label of Internal Flash Memory is INTER-FLASH.

- 18. Select LSI Embedded MegaRAID, and then click Next.
- 19. When the following window appears, enter the product key and then click **Next**. Note that this window does not appear if you use Backup DVD-ROM for installation.

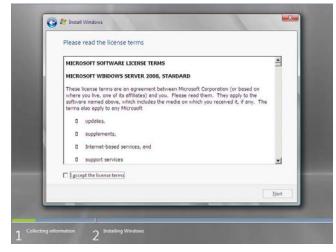
Time	e your product key	of for activation		
	your product key	, ioi activation		
Wind- to ent	ows package. Although ter it may result in the lo lase another edition of V	ey on your computer or on the you are not required to enter oss of data, information, and p Windows. We strongly advise t	your product key now to insta rograms. You may be require	II, failure d to
Thep	roduct key sticker looks	s like this:		
Produ	uct key (dashes will be a	dded automatically):		
		1200		
R A	stomatically activate Wi	indows when I'm online		
What	is activation?			
Bead our	privacy statement			Next
-	-			_

20. When the following window appears, select the Windows edition you have purchased. Select I have selected the edition of Windows that I purchased check box, and then click Next. If the product key was entered, only the corresponding editions are displayed.

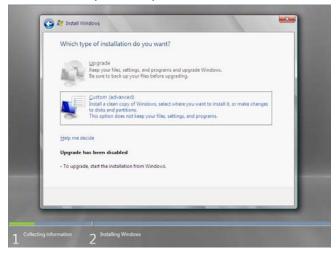
Windows Server 2008 Standard (Full Installation) Windows Server 2008 Datacenter (Full Installation) Windows Server 2008 Standard Server Core Installation) Windows Server 2008 Standard Server Core Installation) Windows Server 2008 Standard Server Core Installation) Windows Server 2008 Standard Stancenter (Server Core Installation) Windows Server 2008 Stancenter (Server Core Installation) Windows Server 2009 Stancenter (Server Core Installatins) Window	Windows Version	
To enter your product key, click the Back button to return to the previous page.	Windows Server 2008 Enterprise (Full Installation) Windows Server 2008 Datacenter (Full Installation) Windows Server 2008 Enterprise (Server Core Installation) Windows Server 2008 Enterprise (Server Core Installation)	
will need to reinstall the correct edition of Windows lister and potentially lose files and information.	To enter your product key, click the Back button to return to	the previous page.
liest	will need to reinstall the correct edition of Windows later and	
		Mest

The Windows versions that appear on the screen differ depending on the OS installation media used.

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



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



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

Note

If the driver was loaded in steps 16, 17 and 18, or if a RAID Controller is not used, go to step 27.

Click Load Driver.

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

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

Tips

• If using Internal Flash Memory, you do not need to remove the OS installation media.

- At this time, the message "The Installation media can be a floppy disk, CD, DVD, or USB flash drive." appears on the screen, use the supplied EXPRESSBUILDER DVD or Internal Flash Memory.
- Specify one of the following locations, and then click OK. (When using EXPRESSBUILDER, select the optical disk drive. When using Internal Flash Memory, select the volume of INTER-FLASH.)

When using the N8103-172/173/174 RAID Controller:

- Windows Server 2008 64-bit Edition \004\win\winnt\oemfd\ws2008x64\megasas2
- Windows Server 2008 32-bit Edition
 - \004\win\winnt\oemfd\ws2008\megasas2

When using the N8103-168 RAID Controller:

- Windows Server 2008 64-bit Edition
 - \004\win\winnt\oemfd\ws2008x64\megasas2
- Windows Server 2008 32-bit Edition \004\win\winnt\oemfd\ws2008\megasas2

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

- Windows Server 2008 64-bit Edition
- \004\win\winnt\oemfd\ws2008x64\megasr1
- Windows Server 2008 32-bit Edition \004\win\winnt\oemfd\ws2008\megasr1

- 25. Select the necessary driver from the driver list shown, and then click Next.
 - When using the N8103-172/173/174 RAID Controller: [LSI MegaRAID SAS 9272-8i]
 - When using the N8103-168 RAID Controller: [LSI MegaRAID SAS 9265CV-8i]
 - When using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive [LSI Embedded MegaRAID]

Tips

Note

When N8103-168 is used, the name of the RAID Controller that appears on the screen differs from the one shown on WebBIOS and Universal RAID Utility. However, this is not a problem.

- 26. If you used EXPRESSBUILDER DVD, remove it and then insert the OS installation media.
- 27. Select the disk in which the partition will be created, and then click **Drive options (advanced)** If a partition has already been created, go to step 30.
- 28. Click New, enter the partition size into the size input box, and then click Apply.

When installing the OS to a disk of over 2,097,152 MB (2 TB), the partition size can only be set to 2,097,152 MB or less.

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

Name		Total Size	Free Space Type	
Disk 0 Unall	ocated Space	74.5 GB	74.5 GB	
fg-Befresh ⊕ Lood Driver	Relete	@Eormat	🌞 Ne <u>w</u>	
				Nest

When the following message appears, Windows installation starts automatically.

Insta	alling Windows
TT	nat's all information we need right now. Your computer
wi	ill restart several times during installation.
	✓ Copying files
	Expanding files
	Installing features
	Installing updates
	Completing installation

Tips

At this time, if EXPRESSBUILDER DVD is still in the optical disk drive, the message prompting you to replace it with an OS installation media appears. Remove EXPRESSBUILDER DVD and then insert the OS installation media.

Install Windows - Insert Disc	
Please insert Windows installation disc 1.	
	OK Cancel

31. The content displayed differs depending on what you selected in step 20. Confirm the following, and then proceed.

Full installations:

(1) After setup of Windows Server 2008 is completed, the following window appears, prompting you to change your password before logging on. Click **OK**.



(2) Change your password, and then click the ジ button.

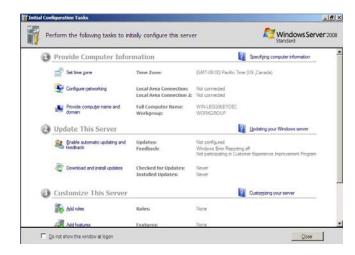
	Administrator
	Center a password mset disk_
Ø	Cancel Windows Server 2008

Tips	Passwords must fulfill the following requirements in Windows Server 2008.
	 Contains 6 or more characters

- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.
- (3) When the following message appears, click **OK**.

Your password has been changed.	
ок	
Windows Server 2008 Standard	

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



Server Core installations:

 If the following message appears after Windows Server 2008 setup has completed, press <Ctrl> + <Alt> + keys.



(2) When the following message appears, click **Other User**.



(3) When the following window appears, enter administrator into the User text box, and then click S. Password entry is not required at this time.

	edministrator Passacoid
Ø	Cancel Windows Server 2008 Standard

(4) The following window appears, prompting you to change your password before logging on. Click **OK**.

The user's password must be changed before logging on the first time.
OK Cancel
Mindows Server 2008 Standard

(5) Change your password, and then click O.

	administrator
	Password
	New password
	Confirm password
C	Cancel Windows Server 2008 Standard

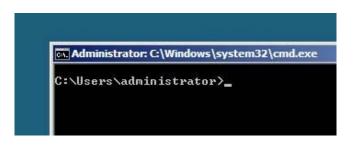
Tips

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

(6) When the following message appears, click OK.



(7) The command prompt will appear. Set the user information.



Tips

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

- 32. Install Starter Pack by referring to Chapter 1 (5.4 Installing Starter Pack).
- 33. Install drivers and specify detailed settings by referring to Chapter 1 (5.5 Setting Up Device Drivers).
- 34. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 35. Apply Service Pack as needed according to Chapter 1 (5.8 Applying Service Pack).
- 36. Install the applications as needed by referring to Chapter 1 (5.9 Installing the Applications).
- 37. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with Windows standard installer is now complete.

5.4 Installing Starter Pack

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

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

5.4.1 When using EXPRESSBUILDER DVD

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

Full installations:

Click Integrated Installation on the menu.

Autorun I	VIEIIU	Version 7.00-000.00 (00
	Instruction Manual	
0	Versions	
9	Integrated Installation	
	Applications	
19.1	Exit	

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

Starter Pack	ation if you want to reinstall it.	
- C Applications		
IT NEC ES	MPRO Agent	
	Report Service	
III Expres	Report Service(HTTPS)	
III Universit	al RAID Utility	
F Product	Info Collection Utility	
IT Expres	Update Agent	

Tips

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

Server Core installations:

(1) Enter the following command at the command prompt, and then specify the optical disk drive letter (for example, D drive).

```
cd /d D:\004\win\winnt\bin
```

C:\Users\administrator>cd /d D:\004\win\winnt\bin

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

pkgsetup.vbs

D:\004\win\winnt\bin>pkgsetup.vbs

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

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

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

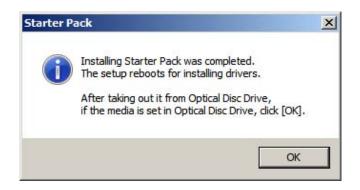
0	Setup is going to install Starter Pack.
	If you install it, dick [OK],
0	If you wish to cancel it, dick [Cancel].
	This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot.
	If you use sive function, enable it after the reboot.
	OK Cancel

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

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

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

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



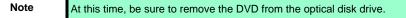
6. Click **OK** to restart the system.

Installation of Starter Pack is now complete.

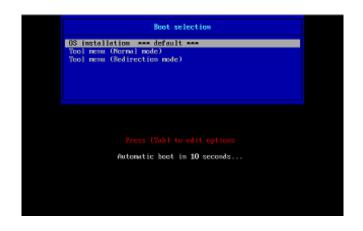
5.4.2 When using Internal Flash Memory

(Optional "Internal Flash Memory" is required)

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



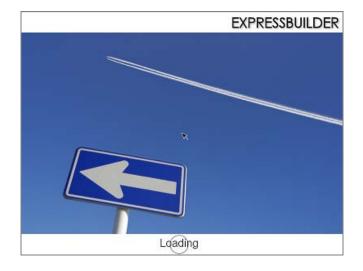
3. When the following message appears, select **OS installation** *** **default** ***. You will automatically advance to the next window, with no need for further input.



The following window appears



The server starts from EXPRESSBUILDER.



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



5. Click Utilities.

5	Setup	
9	Utilities	<i>a</i>
Move to	Utilities Menu.	
0	Exit	

6. Click Starter Pack Installation.

Utilit (1/1)	es	
	RAID Configuration Data	
	File Execution	
	Starter Pack Installation	
Inste Wind	Il Starter Pack to the installed tows. The Memory	
		Utilities

7. Read the contents, and then click Yes.

Question	an 	
	Install Starter Pack into the drive where Windows has been installed. Do you want to proceed ?	
	[Message ID : P2000	į 👘
?		
		_
	Yes No	

8. When files are copied, click $\ensuremath{\textbf{Close}}$ on the following screen.

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

The server then restarts.

Note

You do	not	need	to	nrass	~F3>	kov	at	thie	time
100 00	ΠΟL	neeu	ω	press	< 20	кеу	aı	uns	ume.

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

Full installations

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

Server Core installations

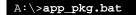
 Enter the following command at the command prompt, and then specify the drive letter of Floppy disk drive (usually drive A).

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

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

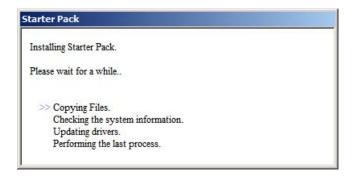
(2) Enter the following, and then press <Enter> key.

app_pkg.bat



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

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

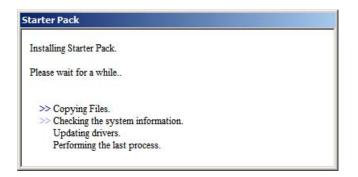


10. Read the message, and then click **OK**. Starter Pack installation starts.

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

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

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



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



Installation of Starter Pack is now complete.

from

5.5 Setting Up Device Drivers

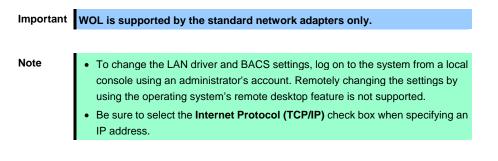
Install and set up device drivers provided for the standard configuration.

For details regarding the installation and setup of a driver that is not described here, refer to the manual supplied with the driver.

5.5.1 Installing the LAN drivers and BACS (teaming utility)

(1) LAN drivers and BACS

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



(2) Optional LAN board

2.

This server supports the following optional LAN boards.

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

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

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

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

	Tips	EXPRESSBUILDER DVD is unnecessary if Starter Pack w	as installed f
		Internal Flash Memory. Proceed to the next step.	
	Open Command Prompt, and	d execute install.bat in the following folder.	
	When using EXPRESSBU	LDER DVD:	
<windows 2008="" 64-bit="" edition="" server=""></windows>			
	EXPRESSBUILDER DV.	D:\004\win\winnt\ws2008x64\r1\lan\intel	
	<windows 2008="" 3<="" server="" th=""><th>2-bit Edition></th><th></th></windows>	2-bit Edition>	
EXPRESSBUILDER DVD:\004\win\winnt\ws2008\lan\intel			
		2	
	<windows 2008="" 6<="" server="" th=""><th></th><th></th></windows>		
	System Drive:\Sta	rtPKG\ws2008x64\r1\lan\intel	
	<windows 2008="" 3<="" server="" th=""><th>2-bit Edition></th><th></th></windows>	2-bit Edition>	
	System Drive:\Sta	rtPKG\ws2008\lan\intel	

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

and then restart the system.

Installation Completed

Setup is now completed.

Note

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

 If an optional LAN board has been added, perform the procedure in "5.5.2 Setting up LAN drivers" for each optional LAN board.

(3) Network adapter name

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

Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:

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

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

Tips

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

5.5.2 Setting up LAN drivers

(1) Setting link speed

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

Tips

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

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

The link speed setting is now complete.

(2) Using N8104-128

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

Follow the procedure below to set it.

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

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

- 7. Complete steps 2 to 6 for each N8104-128 network adapter. Then, close the Broadcom Advanced Control Suite.
- 8. Insert EXPRESSBUILDER DVD into the optical disk drive. If the Autorun Menu appears, close the menu.



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

9. Double-click bhddisabled.vbs in the following folder.

When using EXPRESSBUILDER DVD:

```
<Windows Server 2008 64-bit Edition>
    EXPRESSBUILDER DVD:\004\win\winnt\ws2008x64\r1\lan\bcom\ws2008x64\lan
```

<Windows Server 2008 32-bit Edition>

 $\label{eq:expressBullDer_DVD:\004\win\winnt\ws2008\lan\bcom\ws2008x86\lan}$

If Starter Pack was installed from Internal Flash Memory:

<Windows Server 2008 64-bit Edition>

 $System \ Drive: \verb|StartPKG|ws2008x64|r1|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008x64|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws200|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws2008|lan|bcom|ws$

<Windows Server 2008 32-bit Edition>

System Drive:\StartPKG\ws2008\lan\bcom\ws2008x86\lan

10. When the following message appears, click OK.

Black Hole Router Detect Disable Completed, Reboot the system

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

Setup is now complete.

(3) Using N8104-132/133/138

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

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

Tips	

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

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

When using EXPRESSBUILDER DVD:

<Windows Server 2008 64-bit Edition>
 EXPRESSBUILDER DVD:\004\win\winnt\ws2008x64\r1\lan\bcom\ws2008x64\lan

<Windows Server 2008 32-bit Edition>
 EXPRESSBUILDER DVD:\004\win\winnt\ws2008\lan\bcom\ws2008x86\lan

If Starter Pack was installed from Internal Flash Memory:

<Windows Server 2008 64-bit Edition>

System Drive:\StartPKG\ws2008x64\r1\lan\bcom\ws2008x64\lan

<Windows Server 2008 32-bit Edition>

System Drive:\StartPKG\ws2008\lan\bcom\ws2008x86\lan

3. When the following message appears, click OK.

Configuration Completed [Option:PopUp RLV Disabled(Action:<u>Done)]</u> Reboot the system

Tips

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

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

Setup is now completed.

5.5.3 Setting up team/LiveLink (BACS)

Note

• For how to delete an adapter team, refer to Chapter 1 (5.5.3 Setting up team/LiveLink (BACS) - (4) Procedure for deleting team).

Check the following points when deleting an adapter team.

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

(1) Team types

The following team types are supported.

• Smart Load Balancing and Failover (without Standby Member)

All adapters that compose the team perform communication.

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

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

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

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

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

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

• FEC/GEC Generic Trunking

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

Important FEC/GEC mode requires switch support.

(2) LiveLink

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

Link packets are sent from each adapter within a team.

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

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

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

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

(3) Setting up team/LiveLink

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

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

Broadcom Advanced Control Suite 4 Eile View Action Filter Context Tools Teams (SCSI Help		_ _ _×
	🔽 Driver Information	
Explorer View &	Information Configurations Diagnostic	s Statistics
⊟- 000 Hosts	Property	Value
Conssigned Adapters Conssigned Adapters Conssigned Adapters Conssigned Adapters Construction Net Xireme Girabit: Ethernet Create Team Add to a Team Create a <u>VLAN Create a <u>VLAN Create a VLAN Create a VLAN Create a VLAN </u></u>	VIAI Stans MAC Address MAC Address Permanent MAC Address Prv4 Address Orload Capabilities WTU Driver Information Driver Information Driver Date Driver Status	50E54986AD60 50E54986AD60 169254156174 150,CO 1500 15009 15.0.9 15.0.9 10/3/2011 b57xp32.sys Loaded
	Vital Signs The Vital Signs section of the Information tab network adapters that are installed in your sy adapter and general network connectivity.	
BROADCOM.	h	SALS4

The Broadcom Teaming wizard appears.

3. Click Next.

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

Note

Do not use Expert Mode.

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

Broadcom Teaming Wizard	<u>? ×</u>
Creating/Modifying a Team: Team Name You must assign your team a unique name.	BROADCOM
Enter the name for the team:	
Team 1	
A team name has a maximum length of 39 characters. The name can use any symbol $88 W/*? \odot \Gamma''$	lic character except
Cancel Kack Next>	Preview 🔟

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

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

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

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

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

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

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

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

Broadcom Teaming Wizard	<u>?×</u>
Creating/Modifying a Team: Designating a Standby Member Do you want to designate an available adapter as a standby member?	BROADCOM.
-Optionally select if you want a standby member for the team.	
Do not configure a standby member. (1)	
C Use the following member as a standby member:	
[0007] Broadcom NetXtreme Gigabit Ethernet	
Enable Auto-Fallback Disable mode	
(2)	
Qancel <u>Qancel</u> <u>Next</u>	Preview

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

Important Do not support the operation when not select the Enable Auto-Failback Disable mode.

(4) Click Next.

Broadcom Teaming Wizard	<u>?</u> ×
reating/Modifying a Team: Designating a Standby Member 10 you want to designate an available adapter as a standby member?	BROADCOM.
Optionally select if you want a standby member for the team.	
C Do not configure a standby member.	
C Use the following member as a standby member: 1	
[0008] Broadcom NetXtreme Gigabit Ethernet #2	D
Enable Auto-Fallback Disable mode	
	1
Qancel < Back Next >	Preview 🗾

Note	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.

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

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

Probe Interval (seconds)	2		
Probe Maximum Retries	5	•	
Probe VLAN ID (Optional: 0-4094)	0		
Target		IP Address	<u>-</u>
Probe Target 1 Probe Target 2 Probe Target 3			
	Edit Target IP Addre	ss	

• 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. I 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.

^o Setting		
'eam Name	Team 1	
arget 1:	8000	Ī
arget 2:		1
arget 3:		1
arget 4:		I
Please enter e	ther an IPv4 or IPv6 address for the probe	e targets IP address field.

Tips

Ν	ote

- *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.
- If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified.

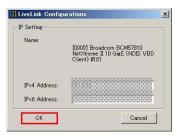
11. Click Next.

Probe Interval (seconds)	2	.	
Probe Maximum Retries	5		
Probe VLAN ID (Optional: 0-4094)	0		
Target		IP Address	
Probe Target 1 Probe Target 2			
Probe Target 3	100000000		<u> </u>
	Edit Target IP Address.		

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

reating/Modifying a Team: Configuring Liv onfigure the IP address for each team mem	eLink (continued) ber.	BROADC
Target Members	IPv4 Address	IPv6 Address
0007] Broadcom NetXtreme Gigabit Ethernet		
0008] Broadcom NetXtreme Gigabit Ethernet #2		
[Edit Member IP Address	

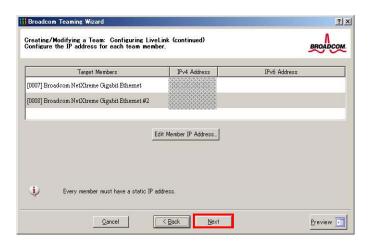
13. Enter the IP address used for LiveLink communication, and then click OK.



Note

- Be sure to specify an IP address for LiveLink communication for all the adapters that compose the team. The address specified here is the IP address for LiveLink communication. Specify a different IP address for data communication.
- For *Target xx*, specify an IP address that is unique on the network and with which communication is possible.

14. Click Next.



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

Broadcom Teaming Wizard	?]:
Greating/Modifying a VLAN: Configure VLAN Support Specify whether you want to create or delete a VLAN.	BROADCOM
Manage VLAN	
C Add VLAN	
C Edit VLAN	
Skip Manage VLAN	

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

Congratulatio	eaming Wizard ons! The Teaming Wizard has finished formation. How would you like to	<u>ء</u> ۸
roceed?	ion matteries. How would you like to	BROADCOL
Commit chane	ges	
Charles and the second	hanges to system and Exit the wizard	
C Save char	nges and continue to manage more teams	
į,	Applying the changes will temporarily interrupt the network connectio and the connection will resume afterwards.	n. The process may take several minutes

Note

When the message below appears, select Yes.

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

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

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

Filter: T			Tools <u>T</u> ea		I <u>H</u> elp	
Explorer View	Ŵ.					8
ė 2 ,		ISP Victual A Team 1 ([0 mary Adapte [0007] Broa andby Adapte	00] BASP ers adcom Net) ers	∜treme Gig	lapter) abit Ethernet abit Ethernet	

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

plorer View 6	Information Statistics	
and Hosts	Property	Value
Toans Toans Part Toans	Team Properties Team Name Team Trys Team Orticad Capabilities Team MTU Orter Name Orter Vestion Orter Vestion Probe Network Probe Network Probe Mark Retries Order Ven ID	Team 1 Smyrt Load Balancing (TM) and Failover LSO CO Banopa22 sys 6331 6/15/2001 2000 5 0
	Team Probe Target 1	

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

Explorer View d	Information Statistics	
Teane T	Property Team Name Driver Version Driver Version Probe Interval Probe Name Robert Target 1 Team Properties	Value Team 1 SLB (Auto-Fallback: Disable) Primary LS0, CO 1500 Baspop22sys 6331 6/15/2011 2000 5 0
вполосом.	Displays information about the team.	

- FEC/GEC Generic Trunking

∬ Filter: TEAM VIEW	am Properties	
Content Post Content C	Property Team Name Team Mame Team Offload Capabilities Team MTU Driver Name Driver Version Driver Date	Value Team 1 FEC/GEC LSO, CO, RSS 1500 Basp.sys 15.3 12/19/2011

Team setup is now complete.

(4) Procedure for deleting team

Note

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

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

xplorer View 🗗	Information Statistics	
Hots Hots Final Form	Property Team Name Team Name Team Name Team Type Team Offload Capabilities Team MTU Driver Name Driver Version Driver Version Driver Date	Value Team 1 Smart Load Balancing(TM) and Failover LS0, CO 1500 Basprog2.sys 6.331 6.715/2011
	Probe Interval Probe Max Retries Probe Vlan ID Team Probe Target 1	2000 5 0
BROADCOM	Displays information about the team.	DALL

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

- 3. Insert EXPRESSBUILDER DVD into the optical disk drive. If the Autorun Menu appears, close the menu.
 - You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

 - $\mbox{4. Double-click} \mbox{ addlvlanstats.vbs} \mbox{ in the following folder}.$

When using EXPRESSBUILDER DVD:

Tips

<Windows Server 2008 64-bit Edition>

 $\label{eq:expressBullder_DVD:\004\win\winnt\ws2008x64\r1\lan\bcom\ws2008x64\lan\end{scale}$

<Windows Server 2008 32-bit Edition>

EXPRESSBUILDER DVD:\004\win\winnt\ws2008\lan\bcom\ws2008x86\lan

If Starter Pack was installed from Internal Flash Memory:

<Windows Server 2008 64-bit Edition>

 $\label{eq:system_def} System_Drive: \StartPKG \ws 2008 x 64 \r1 \lan \bcom \ws 2008 x 64 \lan \ws 2008 x 64 \lan \ws 2008 \com \w 2008 \com \$

<Windows Server 2008 32-bit Edition>

System Drive:\StartPKG\ws2008\lan\bcom\ws2008x86\lan

5. When the following message appears, click OK.

LegacyVlanStats	×
Registry Addition Completed, Reboo	t the system
	C OK

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

Team deletion is now complete.

5.5.4 Setting up team (PROSet)

(1) Team types

The following team types are supported.

- Adapter Fault Tolerance (AFT) is a feature that creates a group containing and automatically converts the process of the working adapter to the other adapter in the group when any trouble occurred on that adapter.
- Adaptive Load Balancing (ALB) is a feature that creates a group containing more than one adapter and enhances the throughput by operating packet transmission from the server by all the adapters. This feature includes AFT feature.
- Switch Fault Tolerance (SFT) is a feature that provides a failover relationship between two ports when each port is connected to a separate switch. SFT supports two ports per team.
- Static Link Aggregation (SLA) accounts for the GEC and 802.3ad static protocols. SLA is a switch-assisted teaming mode and requires configuring ports at both ends of the link: server interfaces and switch ports.

Note

- Static Link Aggregation (SLA) requires switch support.
- The adapters specified as a group of Adaptive Load Balancing (ALB) can only be connected to the switching hub.
- Confirm that the setting of the switching hub (L2) port matches the setting of the server network adapter teaming mode.
- For how to delete an adapter team, refer to Chapter 1 (5.5.4 Setting up team (PROSet) (3) Procedure for deleting team).

Check the following points when deleting an adapter team.

- When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
- If a team exists, delete the team first. If the team is bound to a Hyper-V virtual adapter, unbind the Hyper-V adapter before deleting the team.

(2) Setting up team

 Important
 Possible combinations of network adapters that compose the team are as follows.

 When the number of adapters that composes the team is up to four:

 Between N8104-145 adapters

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

On the Settings tab, click the Modify Team button.

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

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

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

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

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

(3) Procedure for deleting team

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

5.5.5 Graphics accelerator driver

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

If you completed setup with EXPRESSBUILDER, then the graphics accelerator driver has been automatically installed.

Tips

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

To reinstall drivers separately, complete the following steps.

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

Tips

- You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.
- 2. From the Start menu, point to All programs, Accessories, and then select Explorer.
- 3. Double-click the install.bat icon in the following folder.

When using EXPRESSBUILDER DVD:

Windows Server 2008 64-bit Edition *EXPRESSBUILDER DVD*:\004\win\winnt\ws2008x64\video Windows Server 2008 32-bit Edition *EXPRESSBUILDER DVD*:\004\win\winnt\ws2008\video

If Starter Pack was installed from Internal Flash Memory:

Windows Server 2008 64-bit Edition *System drive*:\StartPKG\ws2008x64\video Windows Server 2008 32-bit Edition *System drive*:\StartPKG\ws2008\video

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

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

Graphic accelerator driver installation is now complete.

5.5.6 When using a SAS controller (N8103-142)

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

5.5.7 When using a RAID Controller (N8103-161)

The driver for RAID Controller N8103-161 is automatically installed by Windows Plug-and-Play.

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

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

5.6 Specifying PAE Option

If the server can mount a memory of more than 4 GB in a 32-bit system, specify the PAE option settings to use that memory.

Important The PAE option is not supported by Windows Server 2008 Standard.

For Windows Server 2008, the PAE option can be specified by using the Bcdedit.exe file. Follow the procedure below to specify the PAE option.

- 1. Select Run from the Start menu.
- 2. Enter cmd.exe in the Open text box, and then click OK to start the command prompt.
- 3. Execute the following command at the command prompt: bcdedit /set pae forceenable
- 4. Restart the system. The above setting is applied after restart.
- Execute the following command at the command prompt: bcdedit
 Make sure that pae ForceEnable is added to Windows Boot Loader.

Specification of the PAE option settings is now complete. For details about Bcdedit.exe, refer to the following:

Boot Configuration Data Editor Frequently Asked Questions

http://technet.microsoft.com/en-us/library/cc721886(WS.10).aspx

5.7 License Authentication

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

The following describes the license authentication procedure.

(1) Full installations

 Select Run from the Start menu. Enter the following, and then press <Enter> key. slui

🖅 Run		×
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.	
Open:	slui	
	🕐 This task will be created with administrative privileges.	1
	OK Cancel <u>B</u> rowse	
	OK Cancel <u>B</u> rowse	

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

Windows Activation	
Activation was successful	
Activation helps verify that your copy of Windows is genuine. With a genuine copy of Windows Server®, you are eligible to receive all available updates and product support from Microsoft. Learn more online about the benefits of genuine Windows	genuine %. Microsoft* software
	Close

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

When the following window appears, click Change product key.

R Windows Activation	×
🕥 🗞 Windows Activation	
The Windows Server® Standard product key you typed is invalid for activation	
Buy a new product key online	
→ Type a different product key	
✤ Contact Microsoft to help resolve this problem	
	court 1
	Cancel

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

Vindows Activation	>
💫 Windows Activation	
Change your product key for activation	
Changing your Windows Server® Standard product key requires you to activate Windows. Y must activate Windows to continue using all Windows features.	ou
You can find your product key sticker on your computer or on the installation disc holder ins the Windows package.	ide
Example Sticker:	
Product Key:	
Next Ca	incel

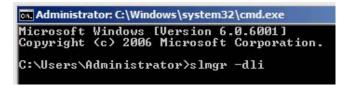
4. Follow the instructions in the following message to start the license authentication process.

indows Activation 🕅 Windows Activation	
Activate Windows now	
You must activate Windows within 60 days to continu	ue using all Windows features.
→ Activate Windows online now	
Ask me later	
Show me other ways to activate	
What is activation?	
Read our privacy statement online	
	Cance

Windows activation is now complete.

(2) Server Core installations

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



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

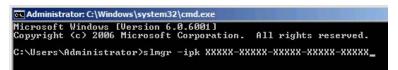
need to complete this procedure. Click **OK** to finish.

Vindows Script Host	
Name: Windows Server(R), ServerStandard edition Description: Windows Operating System - Windows Server(R), OEM_ channel Partial Product Key:	SLP
	Ж

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

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

slmgr -ipk PID



3. Obtain an installation ID for Windows activation.

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



- 4. Reference %systemroot%\system32\slui\phone.inf for the telephone number of the license authentication customer service.
- 5. Call the above number, inform the representative of the installation ID which you obtained in step 3, and receive a confirmation ID.
- 6. Type the confirmation ID you received in step 5.

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

slmgr -atp CID

Administrator: C:\Windows\system32\cmd.exe	
Microsoft Windows [Version 6.0.6001] Copyright <c> 2006 Microsoft Corporation.</c>	All rights reserved.
C:\Users\Administrator>slmgr -atp xxxxx-xx	xxx-xxxxx-xxxxx-xxxxx_

Windows activation is now complete.

5.8 Applying Service Pack

When applying Service Pack 2, refer to the following Microsoft website: <u>http://support.microsoft.com/kb/948465/en-us</u>

5.9 Installing the Applications

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

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

3. Click Integrated Installation on the menu.

utorun N	Menu	Version 7.00-000.00 (
	Instruction Manual	
O	Versions	
Ŧ	Integrated Installation	
	Applications	
1	Exit	

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

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

 You cannot select applications if your system have not installed Starter Pack. Uninstall application if you want to reinstall it. 	
C Starter Pack	
r @ Applications	
NEC ESMPRO Agent Express Report Service Express Report Service(HTTPS) FUniversal RAID Utility Product Info Collection Utility ExpressUpdate Agent	
Install Cancel	
Install Cancel	

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

The selected applications are automatically installed.

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

Now installation of applications is completed.

5.10 Installation When Multiple Logical Drives Exist

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

(1) Installation process

- Setup with EXPRESSBUILDER

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

Refer to Chapter 1 (5.2 Setup with EXPRESSBUILDER), and proceed with setup.

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

- Setup with Windows standard installer
 - 1. Refer to Chapter 1 (5.3 Setup with Windows Standard Installer), and start setup.
 - 2. When the following message appears, select the partition to which you want to set up the operating system.

Select the location to which Windows will be installed

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

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

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

3. Refer to Chapter 1 (5.3 Setup with Windows Standard Installer), and proceed to setup Windows with Windows standard installer and the instructions.

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



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

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

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

8. Close the Server Manager.

6. Setup for Solving Problems

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

6.1 Specifying Memory Dump Settings (Debug Information)

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

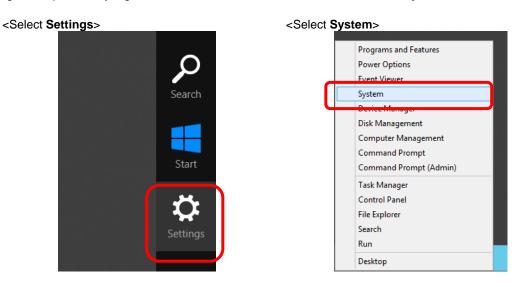
Important
Memory dumps must be collected by a serviceman. You only specify the settings for the memory dump.
When you restart the system to save the memory dump, a message informing you that the system is short of virtual memory might appear. Ignore this message and proceed with the restart. If you rest or restart the system again, the memory dump might not be saved normally.

6.1.1 For Windows Server 2012

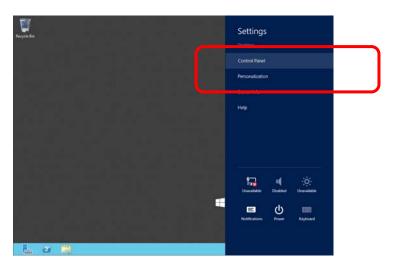
Follow the procedure below to specify the memory dump settings.

1. On the Charms bar, click **Settings**.

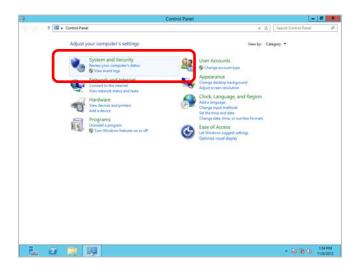
To go to step 5 directly, right-click the left bottom of the screen, and then click System.



2. In Settings, click Control Panel.



3. In Control Panel, click System and Security.



4. In System and Security, click System.

6	System and Security	-	. Ø X
🕑 🕕 + † 🗞 + Control I	anel + System and Security + v C	Search Control Panal	<i>p</i>
Control Panel Home • System and Security Network and Irtemet Hardware Programs User Accounts Apparamos Clock, Language, and Pagion	Action Center Anney our computer's status and resolve insues Change Oue Account Central settings Tradictous Exerce 1 Chan Anney Out Account Central settings Chan Anney Out Account Central System System System Set for some of this computer and 1 Set for some of this computer (Set for some of this computer)		
Ease of Access	Turn automatic updating on or aff Check for updates Install optional updates View update his	and a	
	Power Options Require a password when the computer wakes Change what the power buttons do Ounge when the computer sleeps		
	(m) Administrative Tools Unit provide the second second provide your always ⊕ Create and Torona hard data partitions ⊕ View event log ⊕ Schedule tools ⊕ Generice a system health report		
L 2 🗎	韓	+ 18 18 (b	1:55 PM 11/6/2012

5. In System, click Advanced system setting. The System Properties dialog box appears.



6. In Startup and Recovery, click Settings....

System Properties
Computer Name Hardware Advanced Remote
You must be logged on as an Administrator to make most of these changes. 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
Enviro <u>n</u> ment Variables
OK Cancel Apply

7. Type a file name to save the debug information, and then click OK.

Default operating system:		
Windows Server 2012		¥
✓ Time to display list of operating systems:	30 🗘	seconds
Time to display recovery options when needed:	30 🗘	seconds
Write debugging information Kernel memory dump V		
Dump file:		
	J	
 Overwrite any existing file 		

Fig. For example: <Save information in drive D: with the file name "MEMORY.DMP">

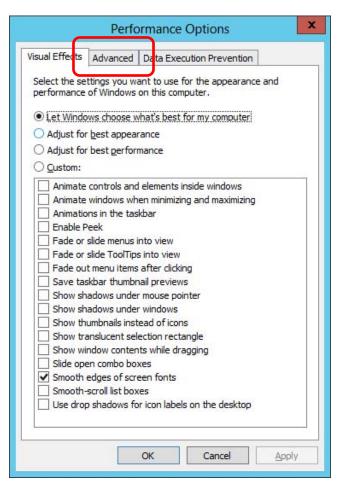
Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump of Write debugging information.
- Specify a drive that has a free space of at least "the memory capacity mounted on the server + 400 MB".
- The size of the debug information (memory dump) changes if DIMM is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

8. In **Performance**, click **Settings**. The **Performance Options** window appears.

System Properties X
Computer Name Hardware Advanced Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings
User Profiles
Desktop settings related to your sign-in
S <u>e</u> ttings
Startup and Recovery
System startup, system failure, and debugging information
Seţtings
Enviro <u>n</u> ment Variables
OK Cancel Apply

9. Click the Advanced tab on the Performance Options window.



10. In Virtual memory, click Change....

isual Effects	Advanced	Data Execution Prevention
	1.1.5	
Processor s		e processor resources.
Choose no	w to allocate	e processor resources.
Adjust for	best perform	nance of:
○ <u>P</u> rogram	ns	Background services
Virtual men	iorv	
	e is an area	on the hard disk that Windows uses as
Total pagin	g file size for	or all drives: 4096 MB
		Change

11. Clear the Automatically manage paging file size for all drives check box, and then click Custom size.

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

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

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

Note the following when specifying a paging file size:

- The paging file is used to collect debug information (dump file). The boot volume must have a paging file of its initial size (Total capacity of physical memory mounted + 400MB or larger) is enough to store the dump file. If the paging file size is insufficient, correct debug information cannot be collected due to a shortage of virtual memory. Make sure to set a sufficient paging file size (recommended size: Total capacity of physical memory mounted * 1.5 or more).
- See "System Partition" in Chapter 1 (3.1 Before Starting Setup) for recommended value.
- When DIMM is added, re-specify the paging file according to the increased memory size.

13. Click OK.

If a message to restart Windows appears, restart the system according to on-screen message.

Specification of the memory dump settings is now complete.

6.1.2 For Windows Server 2008 R2

Follow the procedure below to specify the memory dump settings.

- 1. On the **Start** menu, click **Control Panel**. The Control Panel window appears.
- 2. On the Control Panel window, click System and Security.

Tips

If View by is not Category, select System from Control Panel directly.

- 3. Click System.
- Click Advanced system settings. The System Properties dialog box appears.
- 5. Click the Advanced tab, and then click Settings in Startup and Recovery.
- 6. Type a file name to store the debug information in the **Dump file** text box.

For example: To store the debug information in D drive under the file name MEMORY.DMP: D:\MEMORY.DMP

Note the following when specifying a dump file.

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

The Performance Options dialog box appears.

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

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

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

After specifying the above values, click Set.

Note the following when specifying a paging file size.

- The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the Windows partition paging file must be large enough to store dump files. Make sure to set a sufficient paging file size. If the paging file size is insufficient, correct debug information cannot be collected due to a shortage of virtual memory.
- For details about the Recommended value in the Total paging file size for all drives area, see System partition size in Before Starting Setup.
- When DIMM is added, re-specify the paging file according to the increased memory size.

12. Click OK.

The message to restart the system appears depending on the modifications made. In this case, restart the system.

Specification of the memory dump settings is now complete.

6.1.3 For Windows Server 2008

Follow the procedure below to specify the memory dump settings.

- 1. On the **Start** menu, click **Control Panel**, and then click **System**. The System dialog box appears.
- 2. Click Advanced system settings. The System Properties dialog box appears.
- 3. On the Advanced tab, click Settings in Startup and Recovery.
- 4. Type a file name to store the debug information in the **Dump file** text box.

For example: To store the debug information in D drive under the file name MEMORY.DMP: D:\MEMORY.DMP

Note the following when specifying a dump file.

For Windows Server 2008 64-bit (x64) Edition

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

For Windows Server 2008 32-bit (x86) Edition

- For the Write debugging information drop-down list, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
- Specify a drive that has a free space of at least "the memory capacity mounted on the server + 300 MB" (or 2048 MB + 300 MB if the memory size exceeds 2 GB).
- The size of the debug information (memory dump) changes when DIMM is added. Make sure that the free space of the drive to store the debug information is sufficient. If the mounted memory exceeds 2GB, specify Kernel memory dump.

5. In **Performance**, click **Settings**.

The Performance Options dialog box appears.

- 6. On the **Performance Options** dialog box, click the **Advanced** tab.
- 7. In Virtual memory, click Change.

- 8. Clear the Automatically manage paging file size for all drives check box, and then click Custom size.
- 9. In Paging file size for each drive, specify as follows:

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

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

After specifying the above values, click Set.

Note the following when specifying a paging file size.

- The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the boot volume paging file must be large enough to store dump files. Make sure to set a sufficient paging file size. If the paging file size is insufficient, correct debug information cannot be collected due to a shortage of virtual memory.
- For details about the Recommended value in the Total paging file size for all drives area, see System partition size in Before Starting Setup.
- When DIMM is added, re-specify the paging file according to the increased memory size.

10. Click OK.

The message to restart the system appears depending on the modifications made. In this case, restart the system.

Specification of the memory dump settings is now complete.

6.2 How to Create a User-mode Process Dump File

The user-mode process dump file records information when an application error occurs.

If an application error occurs, get user-mode process dump information using the following procedures without closing the pop-up window that reported the error:

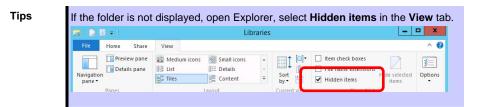
6.2.1 For Windows Server 2012

- 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.

R	Task Manager	_ 🗆 X
	There are no running apps	
More <u>d</u> etails)	<u>E</u> nd task

- 3. Click the Processes tab.
- 4. Right-click the name of the process that you want to get dump information for, and then click **Create Dump File**.
- 5. A dump file for the process is created in the following folder:

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



Once the user-mode process dump file has been created, get the file from the folder shown in step 5.

6.2.2 For Windows Server 2008 R2 and Windows Server 2008

- 1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.
- 2. Click the **Processes** tab.
- 3. Right-click the name of the process that you want to get dump information for, and then click **Create Dump File**.
- A dump file for the process is created in the following folder:
 C:\Users\user name\AppData\Local\Temp

Tips	If the folder is not displayed, perform the following:
	For Windows Server 2008 R2:
	Open Explorer, click Organize and then Folder and search options. Click the
	View tab and then select Show hidden files, folders, and drives.
	For Windows Server 2008:
	Open Explorer, click Folder and search options on the Tools menu. Click the
	View tab and then select Show hidden files and folders.

Once the user-mode process dump file has been created, get the file from the folder shown in step 4.

For details about how to create a user-mode process dump file, refer to the following Microsoft Support web page:

How to create a user-mode process dump file in Windows Server 2008 <u>http://support.microsoft.com/kb/949180/en-us</u>

User-mode process dump file creation is now complete.

6.3 Installing Network Monitor

Utilizing Network Monitor helps you investigate and manage network troubles.

(This feature is not supported in Windows Server 2012 or later operating systems.)

(1) Setting up Network Monitor

Windows Server 2008 R2 and Windows Server 2008 do not provide Network Monitor.To capture network traces on Windows Server 2008 R2 or Windows Server 2008, Microsoft Network Monitor must be installed using the procedure described below.

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

Tips

Tips

If the Security Alert message appears, click **Run**. In the setup format selection window, select **Complete**.

Network Monitor installation is now complete.

Tips

To uninstall Network Monitor, use Programs and Features.

(2) Capturing network traces

- 1. On the Start menu, click Microsoft Network Monitor to start Network Monitor.
- Click Create a new capture tab on the Start Page tab or click New on the File menu, and then click Capture. A new tab for capturing network traces is created.
- 3. In Select Networks, select the network whose traces are to be captured.
- 4. On the **Capture** menu, click **Start** to start capturing the network traces.
- 5. On the Capture menu, click Stop to stop capturing the network traces.
- On the File menu, click Save As.
 The Save As dialog box appears. In Frame selection, click All captured frames, and then type a folder and file names.

Tips

The default folder is as follows:

C:\Users\<User name>\Documents\Network Monitor 3\Captures

7. Click Save.

The network trace file is created in the folder specified in step 6.

The setup for capturing network traces is now complete.

7. Windows OS Parameter File

This section describes a parameter file for Windows OS.

7.1 Creating Windows OS Parameter File

If a parameter file is used when performing Setup with EXPRESSBUILDER, a series of setup procedures from installing of the OS to installing several utilities can be executed automatically just by pressing keys for confirmation.

The settings from the previous installation can also be used when re-installing the system.

It is therefore recommended to use a parameter file to set up the server.

7.1.1 How to create a parameter file

This section describes how to specify the setup information necessary for OS installation and how to create a parameter file.

Follow the procedure described below.

Important	Do not remove EXPRESSBUILDER DVD from the drive while creating a parameter file.
Tips	You can create a parameter file on Internet Explorer 7 or later.

- 1. Start Windows.
- 2. Insert the supplied EXPRESSBUILDER DVD into the optical disk drive.
- 3. Click Applications.

Autorun R	Menu	×. ∨ersion 7.10-001.01 (001)
	Instruction Manual	
0	Versions	
2	Integrated Installation	
	Applications	
×	Exit	

4. Click Create a parameter file for Windows OS.

EXPRESSBUILDER			X
Autorun N	alenu		Version 7.40-001.01 (001)
	Instruction M	lanual	
	Versions		
	Integrated In	stallation	\supset
	Applications	Create a parameter file for Windo	ws OS
		ESMPRO Product Info Collection Utility BMC Configuration	
		Universal RAID Utility	
M	Exit		

The following window appears.



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

6. Click Manual Selection.

Create a parameter file for Windows 05	×
1 2 3 Selection Settings	-
Select an operating system to install. (Click Manual Selection to configure a RAID array only)	
Manual Selection)
Choose an operating system manually.)
0	Setup

From the **Windows** list, select **OS**, and then click **OK**.

	04 minerary			
Question				
	Select an operatin	ng system to inst	all.	
	@ Windows	Windows	Server 2012	
	C RAID Configu	aration Only		
0				
	0)	(O	ancel	

Click \bigcirc on the right side of the screen. \rightarrow Go to step 8.

-		elect an operating system to install.	
Ţ		Manual Selection	(
	₿	Load Settings	

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

Create a parameter file for Windows 05	×
1 2 3 Selection Settings	
Select an operating system to install. (Click Manual Selection to configure a RAID array only)	
Manual Selection)
Load Settings)
Loed installation settings.	
0	Setup

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

Name A J Date modified J Type No items match your search.	Look in:	Documents		t 🕂 💷
	Name +		- Date modif	
		No items	match your search.	
	- 24			
	< File name:	fire.		Open

Click \bigcirc on the right side of the screen.

	ļ	OS selection	2 Settings	3 Confirmation	1)	
-1	Se	elect an op	perating sys	tem to install		
T	(Cli		-	ure a RAID array o	nly)	_
		Manua	l Selection			C
~	₿	Load Se	ettings			

 \rightarrow Go to step 9.

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

		1 OS selection	2 settings	3 Confirmation	
	2 "	nter installa	ation setting	gs.	_
C	0	Default			
	-	Custom			

Use Default:

(1) Click Default.

Create a parameter f		3
	1 OS selection Settings	Confirmation
	Enter installation settings	5.
4	2	
2	Default	
\bigcirc	Specify minimum settings for	
	the installation. Default values are used for other settings.	
	·	
		Setup

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

Wizard					
	um settings to set up se the Windows star			i.	
Basic Settin	-	Windows Se	rver 2012		
Edition		Standard(Gl	Ul server)	•	
Language		English -			
Typing A	dministrator Passwo	rd			
Admini	istrator Password				(Required)
Reente	er Administrator Pase	word			(Required)
					Cancel

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

			05 selection	Settings	3 Confirmation	
	2		ter install Default	ation setting	gs.	6
)		2	Custom			Q

(4) Check the settings, and then click Save.Save the file according to the on-screen instructions.

OS selection	2 Settings 3 Confirmation
Confirm insta	llation settings.
(Confirm if the installa	tion settings are properly)
Target RAID Controller	: LSI Embedded MegaRAID
Array #1 : Initialized(Quick)	
RAID Level	: RAIDO
Physical Device	: SATA #00 2TB
Logical Drive#1	: 1861GB
Logical Drive#2	(3) (TTT
Unused Space	: OGB
Array #2	
RAID Level	
	Sa

 \rightarrow Go to step 10.

Use Custom:

(1) Click Custom.

	1 OS selection Settings 3 Confirmation	
	2 Enter installation settings.	
3	Default	
	Custom	
	Specify ell settings for the installation.	
	S	Setup

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



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

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

-		10		15	
2	Wizard				
-	Install an operating system to the drive o If the RAID controller is not correct, cheo	connecte :k the ha	d to the irdware (following RAID controller. configuration.	
	Device Information				
	RAID Controller	:			
	Number of Physical Devices	:	8		
	Summary of RAID				
	Array #1 RAID1 (2disk) Logical Drive1 (2047GB)				
	RAID Configuration				
				1 / 10	Page
	Next	1		Cancel	

When creating new logical drives

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

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

When skipping the creation of new logical drives

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

(3) Check the settings specified for Basic Settings.

Modify the settings as needed, and then click Next.

Wizard			
select Use Win	dows standa easily both W	e standard installer contained in the OS installa rd installer. Indows and applications when clicking Install	
C Use	ng system Windows star Copy OEM dr	ndard installer ivers to removable media	
Edit		sing EXPRESSBUILDER : [Standard(GUI server) : [English] : [UTC-08:00) Pacific Time (US & Canada)	
			4 / 10 Page

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

0			10			
Wiza	rd					
Window	the settings of th s will be installed the system partition	d into the firs			ve. The maximum pa	rtition
Part	tition Settings					
1200	Create a new par	tition				
	O Use all space					
	Type a parti		:	40 (GB)	*1TB=1024GB	
			num:40GB / F		8 / Maximum:2047GB)	
					5/10	Page
			1			1
	Back	Next			Cancel	
_						_

- Important
 Backing up user data, as needed, is recommended.
 Partition size

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

Wizard	1 m	in in	
- man o			
Personalize the computer. Type Computer Name within 15 charact Administrator Password requires more from three of the following categories	e th	nan 6 characters, an	
Computer name	÷	Auto	
Contraction and the second		6-113-630484556	(Required)
User name	÷	Administrator	
Administrator Password	:		(Required)
Reenter Administrator Password	d :		(Required)

ľ	v	υ	τ	e
	ľ	IN	NO	NOt

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

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

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

Wizard			
Choose a network If you want to typ	protocol. e an IP address, choose Custor	m Settings, click Advanced.	
-Network proto			
1000 CC 3000 C	lard settings		
	m settings		
Standar	d adapter - Internet Protocol (IPv	4) * Advanced	
		7 / 10 F	>age
Back	Next	Cancel	

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

Join this computer to a domain o Choose Workgroup or Domain,	r a workgroup. and then enter parameters.
- 🍳 Join a workgroup	
Workgroup name	: WORKGROUP
- C Join a domain-	
Domain name	:
Account name	*
Password	:
Reenter password	÷ 1
	8 / 10 Pi

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

Wizard			
Choose Windows	components you	want to install.	
-Server roles			
Web server(IIS)		Print and Docume	ent services
DHCP :	server	File services	
D DNS s	erver	Hyper-V	
	tures		
P SNMP	service		Advanced
Simple	TCP/IP services		
C WINS	server		
			9 / 10 Page
			Cancel

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

	14	10	10
Wizard			
	ons you want to in each application.	nstall. , see Description.	
List	of applications		Selected applications
			NEC ESMPRO Agent
		Add >:	Express Report Service Express Report Service(HTTPS)
		No. of Concession, Name	Universal RAID Utility
		<< Dele	Microsoft .WET Pramework version 3.5.1
			ExpressUpdate Agent
- Description			1
			10 / 10 Page
Back	Finis		Cancel

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

	1	05 selection	2 Settings	3 Confirmation	_
	C En	ter installi	ation setting	js.	
	2				
)	0	Default			\bigcirc
	× Ø	Custom	1		

Check the settings, and then click Save.
 Save the file according to the on-screen instructions.

	OS selection	2 3 Settings Confirmation
	Confirm installa	tion cottings
- 5	2	ion settings are specified)
-		un setungs are specified)
	Target RAID Controller	: LSI MegaRAID SAS 9270CV-8I
	Array #1 : Initialized(Quick)	
	RAID Level	: RAID1
	Physical Drive	: Slot #00
	Turker Constants	Slot #01
	Logical Drive#1	: 2047GB
	Logical Drive#2	1
	Unused Space	: 0GB
	Array #2 : Initialized(Quick)	-
	THE REPORT OF THE PROPERTY OF	
		Save
		<u>save</u> Sefty

10. Click OK.

			2 settings	3 Confirmation	
0	Informat	ion]
		Saving the file i	s complete.	[Message ID : D1000]	
0	0				
			ок	1	
				Sei	in na

11. When the following message appears, click **Yes** to complete parameter file creation.

	1 CIS-relitation	2 Settings	3 Confirmation
Question			
	Do you want to OS?	stop creating a p	arameter file for Windows [Message ID : D2000]
0			
		Yes	No
		Question Do you want to OS7	Question Do you want to stop creating a p

Parameter file creation is now complete.



NEC Express5800 Series Express5800/R120e-1E, R120e-2E

Installing Bundled Software

This chapter explains the bundled software and how to install them.

- 1. Bundled Software for the Server Describes the bundled software to be installed in the server.
- Bundled Software for "PC for Management" Describes the bundled software to be installed in "PC for Management" that is used to monitor and manage the server.

I. Bundled Software for the Server

This section explains the software bundled in the server.

I.I NEC ESMPRO Agent (for Windows)

NEC ESMPRO Agent (for Windows) is an application used to monitor the server.

You can install it automatically when Windows OS is installed by using EXPRESSBUILDER.

When installing NEC ESMPRO Agent (for Windows) individually, see "NEC ESMPRO Agent Installation Guide (Windows)" in EXPRESSBUILDER.

1.2 NEC ESMPRO Agent Extension

You can manage the server remotely by using NEC ESMPRO Agent Extension with NEC ESMPRO Manager monitoring the server's BMC.

For details about NEC ESMPRO Agent Extension, see "NEC ESMPRO Agent Extension Installation Guide" in EXPRESSBUILDER.

1.3 BMC Configuration

You can specify configuration data to the BMC of the server by using BMC Configuration.

For details about BMC Configuration, see "BMC Configuration User's Guide" in EXPRESSBUILDER.

1.4 NEC ExpressUpdate Agent

You can easily download, manage and update the firmware or the software installed in this server by using NEC ExpressUpdate Agent.

For details about NEC ExpressUpdate Agent, see "NEC ExpressUpdate Agent Installation Guide" in EXPRESSBUILDER.

Tips

Updates are available for some firmware and software that do not support NEC ExpressUpdate. Refer to the following website to install these packages. http://www.nec.com/global/prod/express/index.html

1.5 Universal RAID Utility

Universal RAID Utility is an application used to manage and monitor the following RAID controllers:

- Onboard RAID Controller (LSI Embedded MegaRAID)
- N8103-172 RAID Controller (512MB, RAID 0/1)
- N8103-173 RAID Controller (512MB, RAID 0/1/5/6)
- N8103-174 RAID Controller (1GB, RAID 0/1/5/6)
- N8103-168 RAID Controller (1GB, 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.

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. Updating to the latest NEC ESMPRO Manager is recommended because some functions are not supported depending on the version of NEC ESMPRO Manager. For details, see "Universal RAID Utility User's Guide".

For details about NEC ESMPRO Manager, see "NEC ESMPRO Manager Installation Guide".

1.6 Express Report Service / Express Report Service(HTTPS)

To avoid system failures or to maintain the server quickly, Express Report Service / Express Report Service(HTTPS) informs the support center of the failure information, preventive maintenance information by E-Mail or modem. If you want to use this service, contact your sales representative and install NEC ESMPRO Agent before using this service.

You can install this service with Windows OS installation when using EXPRESSBUILDER.

For details about Express Report Service / Express Report Service(HTTPS), see "Express Report Service / Express Report Service(HTTPS) Installation Guide" in EXPRESSBUILDER.

1.7 NEC Product Info Collection Utility

NEC Product Info Collection Utility can collect various data or logs related to the server all at once. You can collect the server information (Product Info) for maintenance by using this utility.

1.7.1 Installation

Follow the steps below to install this utility.

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

Tips

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

1.7.2 Uninstallation

Uninstall the utility depending on the Windows installation type:

• Full installation :

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

• Server Core installation :

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

2. Bundled Software for "PC for Management"

This section describes the bundled software required to configure "PC for Management" used to manage the server system.

2.1 NEC ESMPRO Manager

NEC ESMPRO Manager can remotely control and monitor the hardware and the RAID system of the server. To use these features, install the bundle software for the server such as NEC ESMPRO Agent.

For details about NEC ESMPRO Manager, see NEC ESMPRO Manager Installation Guide or online help.

2.2 Express Report Service(MG)

To avoid system failures or to maintain the server quickly, Express Report Service(MG) informs the support center of the failure information or preventive maintenance information by E-Mail or Modem.

To use this feature, NEC ESMPRO Agent is required because Express Report Service usually works with it.

If NEC ESMPRO Agent cannot be installed to the server, you can install Express Report Service(MG) into NEC ESMPRO Manager instead of Express Report Service.

For details about Express Report Service(MG), see "Express Report Service(MG) Installation Guide" in EXPRESSBUILDER.