# Express 5800





NEC Express Server Express5800 Series

# Express5800/T120e EXP246

# **Installation Guide (Windows)**

Chapter 1 Installing Windows

Chapter 2 Installing Bundled Software

10.105.01-102.01 Dec. 2013, 1st Edition © NEC Corporation 2013

# **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
PDF	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.

# Contents

Γ	Docu	ments	s for This Product	2
C	Conte	ents		3
	Votot	ional	Used in This Document	G
ľ			tions used in the text	
			al disk drive	
		•	disk drive	
			ovable media	
			eviations of Operating Systems (Windows)	-
		710010		
٦	Trade	emarks	<s< th=""><th>8</th></s<>	8
L	_icen	ise No	otification	8
F	Regu	latory	y Notices	9
、	Norn	inas o	and Additions to This Document	12
```			and Additions to This Document	
		Latest		
Chap	ter 1	I In:	nstalling Windows	
ep				
	1.	Before	re Starting Setup	
-		1.1	Starting EXPRESSBUILDER	
		1.2	Supported Windows OS	
		1.3	Supported Service Pack	
		1.4	Mass Storage Controllers Supported by EXPRESSBUILDER	
		1.5	Using a Mass Storage Controller Not Supported by EXPRESSBUILDER	
2	2.	Setting	ng Up the Operating System	19
	3.	Setting	ng Up Windows Server 2012	
		3.1	Before Starting Setup	
		3.2	Setup with EXPRESSBUILDER	
			3.2.1 Setup flow	
			3.2.2 Requirements for Setup	
			3.2.3 Setup procedure	
		3.3	Setup with Windows Standard Installer	
			3.3.1 Setup flow	
			3.3.2 Requirements for Setup	
			3.3.3 Setup procedure	
		3.4	Installing Starter Pack	
			3.4.1 When using EXPRESSBUILDER DVD	
			3.4.2 When using Internal Flash Memory	
		3.5	Setting Up Device Drivers	
			3.5.1 Installing the LAN drivers	
			3.5.2 Setting up LAN drivers	
			3.5.3 Graphics accelerator driver	
			<ul> <li>3.5.4 When using a SAS controller (N8103-142)</li> <li>3.5.5 When using a RAID Controller (N8103-161)</li> </ul>	
			<ul> <li>3.5.5 When using a RAID Controller (N8103-161)</li> <li>3.5.6 When using a Fibre Channel controller (N8190-153/154)</li> </ul>	
		9 D		
		3.6 9 7	License Authentication	
		3.7	Installing the Applications	
		3.8 • •	Installation When Multiple Logical Drives Exist	
		3.9	Setup of Windows Server 2012 NIC Teaming (LBFO)	

4.	Settin	ng Up Windows Server 2008 R2	
	4.1	Before Starting Setup	
	4.2	Setup with EXPRESSBUILDER	
		4.2.1 Setup flow	
		4.2.2 Requirements for Setup	
		4.2.3 Setup procedure	
	4.3	Setup with Windows Standard Installer	
		<ul> <li>4.3.1 Setup flow</li> <li>4.3.2 Requirements for Setup</li> </ul>	
		4.3.3 Setup procedure	
	4.4	Installing Starter Pack	
		4.4.1 When using EXPRESSBUILDER DVD	
		4.4.2 When using Internal Flash Memory	
	4.5	Setting Up Device Drivers	
		4.5.1 Installing the LAN drivers and BACS (teaming utility)	
		4.5.2 Setting up LAN drivers	
		4.5.3 Setting up team/LiveLink (BACS)	
		4.5.4 Setting up team (PROSet)	
		4.5.5 Graphics accelerator driver	
		4.5.6 When using a SAS controller (N8103-142)	
		4.5.7 When using a RAID Controller (N8103-161)	
	4.6	4.5.8 When using a Fibre Channel controller (N8190-153/154)	
	4.0 4.7	Applying Service Pack	
	4.7 4.8	Installing the Applications	
	1.9	Installation When Multiple Logical Drives Exist	
5.	Settin	ng Up Windows Server 2008	163
	5.1	Before Starting Setup	
	5.2	Setup with EXPRESSBUILDER	
		5.2.1 Setup flow	169
		5.2.2 Requirements for Setup	170
		5.2.3 Setup procedure	
	5.3	Setup with Windows Standard Installer	
		5.3.1 Setup flow	
		5.3.2 Requirements for Setup	
		5.3.3 Setup procedure	
	5.4	Installing Starter Pack 5.4.1 When using EXPRESSBUILDER DVD	
		5.4.2 When using EXPRESSBOILDER DVD	
	5.5	Setting Up Device Drivers	
	9.9	5.5.1 Installing the LAN drivers and BACS (teaming utility)	
		5.5.2 Setting up LAN drivers	
		5.5.3 Setting up team/LiveLink (BACS)	
		5.5.4 Setting up team (PROSet)	
		5.5.5 Graphics accelerator driver	
		5.5.6 When using a SAS controller (N8103-142)	235
		5.5.7 When using a RAID Controller (N8103-161)	
		5.5.8 When using a Fibre Channel controller (N8190-153/154)	
	5.6	Specifying PAE Option	
	5.7	License Authentication	
	5.8 5.9	Applying Service Pack	
		Installing the Applications	
	5.10	Installation When Multiple Logical Drives Exist	
6.	Satur	o for Solving Problems	211
v.	6.1	Specifying Memory Dump Settings (Debug Information)	
	<b>v.</b> 1	6.1.1 For Windows Server 2012	
		6.1.2 For Windows Server 2008 R2	
		6.1.3 For Windows Server 2008	
	6.2	How to Create a User-mode Process Dump File	
	-	6.2.1 For Windows Server 2012	
		6.2.2 For Windows Server 2008 R2 and Windows Server 2008	
	6.3	Installing Network Monitor	256

7.	Windo	ws OS Parameter File	
	7.1	Creating Windows OS Parameter File	
		7.1.1 How to create a parameter file	
Chapter	<b>2</b> In	stalling Bundled Software	
1.	Bundl	ed Software for the Server	
	1.1	NEC ESMPRO Agent (for Windows)	
	1.2	NEC ESMPRO Agent Extension	
	1.3	BMC Configuration	
	1.4	NEC ExpressUpdate Agent	
	1.5	Universal RAID Utility	
		1.5.1 Installing and setting up Universal RAID Utility	
		1.5.2 Management by NEC ESMPRO Manager	
	1.6	Express Report Service / Express Report Service(HTTPS)	
	1.7	NEC Product Info Collection Utility	
		1.7.1 Installation	
		1.7.2 Uninstallation	
2.	Bundl	ed Software for "PC for Management"	
~~~	2.1	NEC ESMPRO Manager	
	2.2	Express Report Service(MG)	

# **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, <b>hardware failure, data loss, and other serious malfunctions could occur</b> .		
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
Willdows Server 2012	Widnows Server 2012 Datacenter
Windows Server 2008 R2	Windows Server 2008 R2 Standard
Willdows 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

# Trademarks

EXPRESSSCOPE is a registered trademark of NEC Corporation.

Microsoft, Windows, Windows Server, Windows Vista, and MS-DOS are registered trademarks or trademarks of Microsoft Corporation in the United States and other countries. Intel, Pentium, and Xeon are registered trademarks of Intel Corporation of the United States. AT is a registered trademark of International Business Machines Corporation of the United States and other countries. LSI and the LSI logo design are trademarks or registered trademarks of LSI Corporation. Adobe, the Adobe logo, and Acrobat are trademarks of Adobe Systems Incorporated. PCI Express is a trademark of Peripheral Component Interconnect Special Interest Group. Linux is a trademark or registered trademarks of Linus Torvalds in Japan and other countries. Red Hat® and Red Hat Enterprise Linux are trademarks or registered trademarks of Red Hat, Inc. in the United States and other countries.

All other product, brand, or trade names used in this publication are the trademarks or registered trademarks of their respective trademark owners.

# **License Notification**

The System BIOS of this product contains open source software for the following license.

#### EDK FROM TIANOCORE.ORG

**BSD** License from Intel

Copyright (c) 2004, Intel Corporation

#### All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of the Intel Corporation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

#### Copyright (c) 2004 - 2007, Intel Corporation

All rights reserved. This program and the accompanying materials are licensed and made available under the terms and conditions of the BSD License which accompanies this distribution. The full text of the license may be found at http://opensource.org/licenses/bsd-license.php

THE PROGRAM IS DISTRIBUTED UNDER THE BSD LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED.

# **Regulatory Notices**

## **FCC Statement**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### Industry Canada Class A Emission Compliance Statement/ Avis de conformité à la réglementation d'Industrie Canada:

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

## **CE / Australia and New Zealand Statement**

This is a Class A product. In domestic environment this product may cause radio interference in which case the user may be required to take adequate measures (EN55022).

### **BSMI Statement**

警告使用者:

這是甲類的資訊產品,在居住的環境中使用

時,可能會造成射頻干擾,在這種情況下,

使用者會被要求採取某些適當的對策。

## Disposing of your used product



#### In the European Union

EU-wide legislation as implemented in each Member State requires that used electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes Information and Communication Technology (ICT) equipment or electrical accessories, such as cables or DVDs.

When disposing of used products, you should comply with applicable legislation or agreements you may have. The mark on the electrical and electronic products only applies to the current European Union Member States.

#### Outside the European Union

If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority and ask for the correct method of disposal.

## Turkish RoHS information relevant for Turkish market

EEE Yönetmeliğine Uygundur

## CCC声明

声 明 此为A级产品,在生活环境中,该产品可能会造成无线电干扰。在这种情况下,可能需要用户对其干扰采取切实可行的措施。

			有毒有害物	勿质或元素		
部件名称	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷线路板	×	0	0	0	0	0
HDD、DVD等	×	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
〇: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。						

## Vietnam RoHS information relevant for Vietnam market

Complying with "CIRCULAR, No.30/2011/TT-BCT (Hanoi, August 10 2011), Temporary regulations on content limit for certain hazardous substances in electrical products"





Declaration of Conformity with the requirements of Technical Regulation on the Restriction Of the use of certain Hazardous Substances in **Electrical and Electronic Equipment** (adopted by Order №1057 of Cabinet of Ministers of Ukraine) The Product is in conformity with the requirements of Technical Regulation on the Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment (TR on RoHS). The content of hazardous substance with the exemption of the applications listed in the Annex №2 of TR on RoHS: 1. Lead (Pb) - not over 0.1wt % or 1000wt ppm: Cadmium (Cd) - not over 0,01wt % or 100wt ppm; 2. Mercury (Hg) – not over 0,1wt % or 1000wt ppm; 3. 4. Hexavalent chromium (Cr6+) - not over 0,1wt % or 1000wt ppm; 5. Polybrominated biphenyls (PBBs) - not over 0,1wt % or 1000wt ppm; Polybrominated diphenyl ethers (PBDEs) - not over 0,1wt % or 1000wt ppm. 6. Декларація про Відповідність Вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному обладнанні (затвердженого Постановою №1057 Кабінету Міністрів України) Виріб відповідає вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному обладнанні (ТР ОВНР). Вміст небезпечних речовин у випадках, не обумовлених в Додатку №2 ТР ОВНР, : свинець(Pb) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин намільйон; 1. кадмій (Сd)- не перевищує 0,01 % ваги речовини або в концентрації до 100 частин намільйон; 2. ртуть(Hg) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин намільйон; 3. шестивалентний хром (Сг6+) - не перевищує 0,1 % ваги речовини або в концентрації до 1000 4. частин на мільйон; 5. полібромбіфеноли (РВВ) – не перевищує 0,1% ваги речовини або в концентрації до 1000 частин на мільйон: 6. полібромдефенілові ефіри (PBDE) – не перевищує 0,1 % ваги речовини або в концентраціїдо 1000 частин на мільйон. Декларация о Соответствии Требованиям Технического Регламента об Ограничении Использования некоторых Вредных Веществ в электрическом и электронном оборудовании (утверждённого Постановлением №1057 Кабинета Министров Украины) Изделие соответствует требованиям Технического Регламента об Ограничении Использования некоторых Вредных Веществ в электрическом и электронном оборудовании (ТР ОИВВ). Содержание вредных веществ в случаях, не предусмотренных Дополнением №2 ТР ОИВВ: свинец (Pb) – не превышает 0,1 % веса вещества или в концентрации до 1000 миллионныхчастей; 1. кадмий (Cd) – не превышает 0,01 % веса вещества или в концентрации до 100 миллионныхчастей; 2. ртуть (Hg) – не превышает 0,1 % веса вещества или в концентрации до 1000 миллионныхчастей; 3. шестивалентный хром (Сг6+)- не превышает 0,1 % веса вещества или в концентрации до 1000 4. миллионных частей;

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

# Warnings and Additions to This Document

- 1. Unauthorized reproduction of the contents of this document, in part or in its entirety, is prohibited.
- 2. This document is subject to change at any time without notice.
- 3. Do not make copies or alter the document content without permission from NEC Corporation.
- 4. If you have any concerns, or discover errors or omissions in this document, contact your sales representative.
- 5. Regardless of article 4, NEC Corporation assumes no responsibility for effects resulting from your operations.
- 6. The sample values used in this document are not the actual values.

Keep this document for future reference.

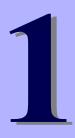
## Latest editions

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

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

http://www.nec.com/

# NEC Express5800 Series Express5800/T120e



# **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.
- 4. 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

Name of Windows OS		Supported		
		ЕВ	OS	
	Windows Server 2012 Standard	~	$\checkmark$	
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	~	$\checkmark$	
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	$\checkmark$
	Service Pack 1 Included	~
Windows Server 2008 R2	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*).

< T120e >	Windows Server 2012	Windows Server 2008 R2	Windows Server 2008
RAID Controllers supporting OS	installation by EXPRE	SSBUILDER	
Onboard RAID Controller (LSI Embedded MegaRAID)	✓	~	✓
N8103-172 RAID Controller (512MB, RAID 0/1)	×	✓	~
N8103-173 RAID Controller (512MB, RAID 0/1/5/6)	~	$\checkmark$	$\checkmark$
N8103-174 RAID Controller (1GB, RAID 0/1/5/6)	~	$\checkmark$	$\checkmark$
N8103-168 RAID Controller (1GB, RAID 0/1/5/6)	~	~	✓
Other options	•		
N8103-142 SAS Controller	✓	$\checkmark$	✓
N8103-161 RAID Controller (1GB, RAID 0/1/5/6)	~	$\checkmark$	~
N8190-153 Fibre Channel Controller (1ch)(8Gbps/Optical)	~	$\checkmark$	$\checkmark$
N8190-154 Fibre Channel Controller (2ch)(8Gbps/Optical)	~	~	✓

#### ✓: Supported by EXPRESSBUILDER

#### < T110e-M >

	Windows Server 2012	Windows Server 2008 R2	Windows Server 2008		
RAID Controllers supporting OS	installation by EXPRE	SSBUILDER			
Onboard RAID Controller (LSI Embedded MegaRAID)	~	1	✓		
N8103-172 RAID Controller (512MB, RAID 0/1)	~	$\checkmark$	~		
N8103-173 RAID Controller (512MB, RAID 0/1/5/6)	~	$\checkmark$	$\checkmark$		
N8103-174 RAID Controller (1GB, RAID 0/1/5/6)	✓	$\checkmark$	$\checkmark$		
N8103-168 RAID Controller (1GB, RAID 0/1/5/6)	~	✓	✓		
Other options					
N8103-142 SAS Controller	$\checkmark$	~	~		
	Supported by EXPRESSBUILDER				

✓: 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.

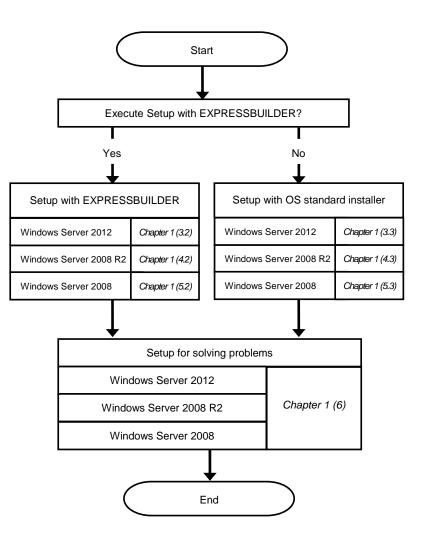
Note

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

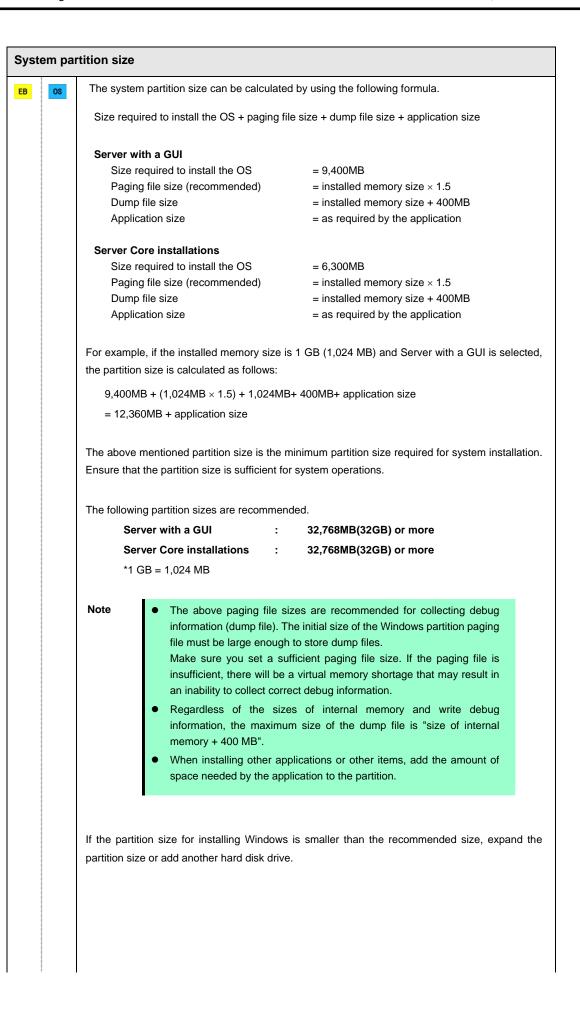
Read through the cautions explained here before starting setup.

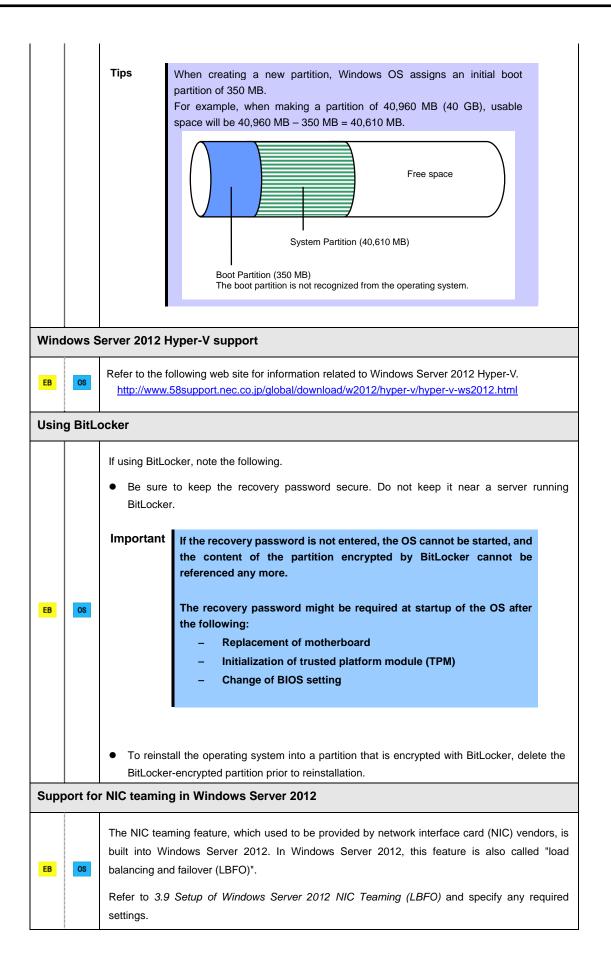
- EB
- : Confirm during Setup with EXPRESSBUILDER
- **OS** : Confirm during Setup with Windows standard installer

Hard	lware o	configuration
		The following hardware configurations require special procedures.
ЕВ	OS	<b>Reinstalling to a mirrored volume</b> 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.
ЕВ	OS	<b>Peripheral devices such as RDX/MO</b> 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	<b>Connecting to multiple hard disk drives (logical drives)</b> 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).
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 + 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 o	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 mo
colled	baging file in drive C is used for collecting memory dump, b ction may fail because the size of the paging file is smaller than the led memory size.
Example o	of incorrect setting 2
D: Pag	ing file whose size is "installed memory size × 0.5" ing file whose size is "installed memory size × 0.5" ing file whose size is 400 MB
but c	tal paging file size in all drives is "installed memory size + 400 MB ollection may fail because only the paging file in drive C is used fo ting memory dump.
Example o	of incorrect setting 3
D: Pag	baging file exists ing file whose size is "installed memory size + 400 MB" or mor ynamic volume)
-	g files in a dynamic volume cannot be used for collecting memor
cify a drive	<ul> <li>Thus, collecting memory dump fails.</li> <li>e other than the system drive for "Dedicated Dump File".</li> <li>istry shown below by using the Registry Editor and specify the</li> </ul>
cify a drive	e other than the system drive for "Dedicated Dump File".
cify a drive ate the reg	e other than the system drive for "Dedicated Dump File".
cify a drive ate the reg	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the r
cify a drive ate the reg cated Durr Vhen speci Key: Name:	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the r ip File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile
cify a drive ate the reg cated Dum Vhen speci Key:	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the up File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
cify a drive ate the reg cated Dum Vhen speci Key: Name: Type: Data: Data: te the follo Pay str Pay str The se Specify	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the up File. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys wing when specifying Dedicated Dump File: ict attention to edit the registry. tting is applied after restarting the system.
cify a drive ate the reg icated Dum Vhen speci Key: Name: Type: Data: Data: ote the follo Pay str The se Specify Dedica	e other than the system drive for "Dedicated Dump File". istry shown below by using the Registry Editor and specify the reprint of the file. fying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys wing when specifying Dedicated Dump File: ict attention to edit the registry. tting is applied after restarting the system. a drive that has free space of "installed memory size + 400 MB" of ted Dump File cannot be placed in dynamic volumes. Ext memory dump by using Dedicated Dump File, a paging file is reference.





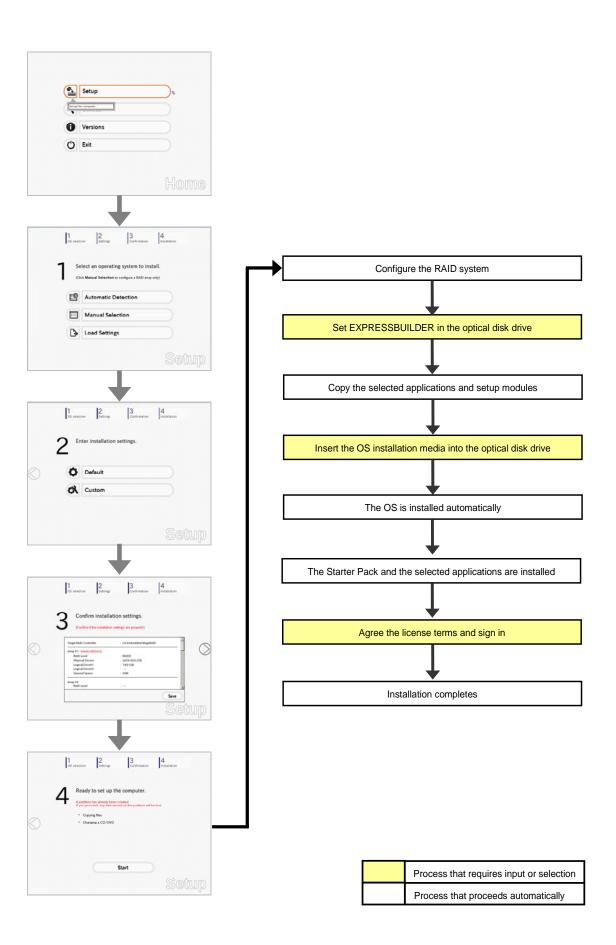
## **3.2** Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

Important	<ul> <li>Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: <ul> <li>RAID settings</li> <li>Partition Settings</li> </ul> </li> <li>Backing up user data, as needed, is recommended.</li> </ul> <li>Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup.</li>
Note	<ul> <li>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.</li> <li>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.</li> </ul>
Tips	<ul> <li>Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally).</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>.</li> </ul>

#### *3.2.1* Setup flow



#### 3.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

Tips

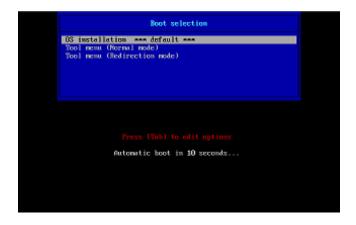
- EXPRESSBUILDER may be distributed in Internal Flash Memory.
   EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
   If you are using a captor with Internal Flash Memory installed you can install the
- If you are using a server with Internal Flash Memory installed,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

#### 3.2.3 Setup procedure

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

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

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



The following window appears.

Note



The server starts from EXPRESSBUILDER.



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



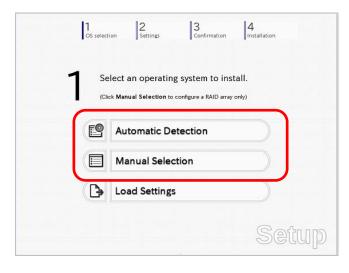
5. Click Setup.

Setup	Setup	Ð
	Versions	
Ċ	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.

Se	lect an operatii	ng system to ins	stall.	
(Clic	k Manual Selection t	o configure a RAID array	/ only)	
	Automatic D	etection	Ø	
Select a automat disc.	n operating system lically with an installation	stion		
B	Load Setting	(S		

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

Quest	on				
	To check your	OS installation	disc, insert it int	o the computer. Message ID : B2	014]
0					
		ОК	Cancel		

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

	elect an operating system to install.	
< F9	Automatic Detection	
	Manual Selection	
Þ	Load Settings	

#### To select an OS from the menu:

(1) Click Manual Selection.

1	Select an operating		
	(Click Manual Selection to co	onfigure a RAID array on	y)
Ľ	Automatic Det	ection	
	Manual Select	ion	Ø
10	ou can select the target OS of e installation from the menu.		

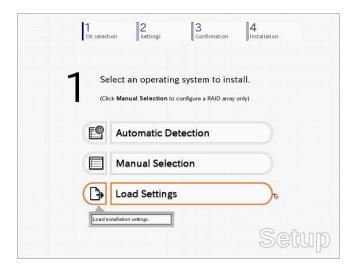
(2) From the Windows list, select Windows Server 2012, and then click OK.



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

1	Se	lect an operating	g system to in	stall.	
I	(Clie	ck Manual Selection to a	configure a RAID arra	y only)	
	e	Automatic De	tection		
~		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     107/26/2012
File System	Coromi usbl	Unknown
	4	
∯ Add — Be	move	Ŧ
		🗶 Cancel 📄 Open

Tips

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

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

1		lect an operating system to install.	
-	E <b>9</b>	Automatic Detection	
		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.

	OS select	ion Settings 3 Confirmation	4 Installation
	2 "	nter installation settings.	
)	0	Default	
	~ 01	Custom	
			Setup

 $\rightarrow$  Go to step 10.

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

1 OS selec	tion Settings 3 Confirm	mation Installation
2	nter installation settings.	
0	Default	
-	Custom	

#### Use Default:

(1) Click Default.

	1 2 3 OS selection Settings Con	firmation
	2 Enter installation settings	
$\bigcirc$	Default	₽
	Specify minimum settings for the installation. Default values are used for other settings.	
		Setup

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

	the minimum settings t want to use the Windo				
□Ba	isic Settings				
	Operating system	: Windows S	erver 2012		
	Edition Language • Typing Administrator	: English 🔻	GUI server)	4	
	Administrator Passo Reenter Administra	word	:	(Required) (Required)	
_		Finish		Cancel	Î

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

Custom	2 ▫	ter installation settings.	
Custom	~ 0	Default	
	Ø	Custom	

 $\rightarrow$  Go to step 10.

#### Use Custom:

(1) Click Custom.

2 Enter installation settings.	Default Custom	0S selecti	on Settings Con	firmation Installation
Custom To Custom	Custom Specify all settings for the	2 "	ter installation settings	
Custom To Custom	Custom Specify all settings for the		Default	
Specify all settings for the	Specify all settings for the			
		Specify	all settings for the	~

(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.

Install an operating system to If the RAID controller is not		ted to the following RAID cont hardware configuration.	oller.
Device Information			
RAID Controller		: LSI Embedded MegaRAID	Detail
Number of Physical D	evices	: 1	
-Summary of RAID			
Array #1 RAID0 (1disk) Logical Drive1 (1861	GB)		<u>*</u>
RAID Configuration			
Skip a RAID Confi	guration		
			1 / 10 Page
	Next		Cancel

#### When creating new logical drives

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

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

When skipping the creation of new logical drives

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

(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**.

Wine	II Windows by using the s dows standard installe can install easily both Win RESSBUILDER.	r.			
-	Basic Settings				
1	Operating system	: W	indows Server 2012		
	O Use Windows star	idard installer			
ſ	─	C-CONTRACTOR CONTRACTOR	ER		
	Edition	: Standard(G		-	
	Time zone		0) Pacific Time (US & C	anada)	•
					4 / 10 Page
	Back	Next			Cancel

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

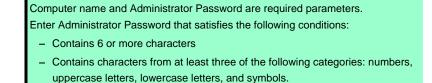
Win	em partition is 2TB.	the first hard disk di	ive or logical drive.	The maximum partition size for th
All o	lata currently on an existi	ng partition, shown v	with a red frame, will	be deleted.
Cu	ment Partitions (the area sho	wn with a red frame will	be deleted)	
	Free Space			
	(27868)			
F	Partition Settings			
	-Create a new partition			
	O Use all space			
	<ul> <li>Ose an space</li> <li>Type a partition</li> </ul>	size :[	40 (GB	*1TB=1024GB
			40GB / Recomment	led 40GB / Maximum 278GB)
		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		
				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 (3.1 Before Starting Setup).*)
  The maximum partition size is 2,097,152 MB.
  If you select "Create a new partition" under "Partition Settings", the entire contents of the hard disk drive will be deleted.
- (5) Enter the user information, and then click Next.

Personalize the computer. Type Computer Name within 15 characte Administrator Password requires more from three of the following categorie	re than 6 chai		
User information			
Computer name	: 🗹 Auto		
	1-1993-0	123456	(Required)
User name	: Administr	ator	
Administrator Password	5 T		(Required)
Reenter Administrator Password	15		(Required)
			6 / 10 Pag

#### Note



- 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.

		Settings, click /	Advanced.
-Network protocols-			
<ul> <li>Standard sett</li> </ul>	ings		
Custom settin	ngs		
Standard adap	ter - Internet Protocol (IP	(4) -	Advanced
-			
			7 / 10 Page

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

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

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

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

Join this computer to a domain or a Choose Workgroup or Domain,		
Join a workgroup     Workgroup name	WORKGROUP	
O Join a domain		
Domain name	:	
Account name		
Password	:	
Reenter password	:	
		8 / 10 Page
	1	

Installations

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

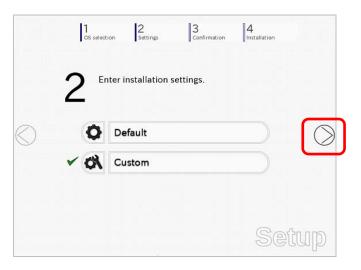
Choose Windows components you want to	install.	1
Server roles		
Web server(IIS)	Print and Document services	
DHCP server	File services	
DNS server	Hyper-V	
Windows features		
SNMP service	Advanced	
Simple TCP/IP services	Advanced	
WINS server		
	9 / 10 Page	
Back Next	Cancel	
		Server with
Wgard		Server with a
Wizard		Server with a
Wizard Choose Windows components you want to	install.	Server with
		Server with
	In IA	Server with
Choose Windows components you want to	install.	Server with
Choose Windows components you want to		Server with
Choose Windows components you want to	Print and Document services	Server with a
Choose Windows components you want to Server roles Web server(IIS) DHCP server	Print and Document services File services	Server with a
Choose Windows components you want to Server roles Web server(IIS) DHCP server DNS server Windows features	Print and Document services File services Hyper-V	Server with a
Choose Windows components you want to  Server roles  Web server(IIS)  DHCP server DNS server	Print and Document services File services	Server with a
Choose Windows components you want to	Print and Document services File services Hyper-V	Server with a
Choose Windows components you want to	Print and Document services File services Hyper-V	Server with
Choose Windows components you want to	Print and Document services File services Hyper-V	Server with a
Choose Windows components you want to	Print and Document services File services Hyper-V Advanced	Server with a

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

Choose applications you For details about each app		scription.		
List of appli	cations		Selected applications	
Description		Add >> Express Express Universa Microsol	IPRO Agent Report Service Report Service(HTTPS) I RAID Utility I .NET Framework Version 3.5.1 Jpdate Agent	
Back	Finish		10 / 10 Page Cancel	

Express5800/T120e Installation Guide (Windows)

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)	
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
		Concernant of the second secon

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
	Д	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**.

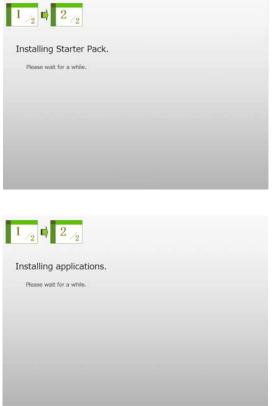
	Insert EXPRESSBUILDEF		Message ID : J2002 ]	
		1	viessage in 12002 [	
0				

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
	prompt screen appears.
2	[ Message ID : J2004 ]
1	
	OK Cancel

Windows Server 2012 is installed automatically.

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



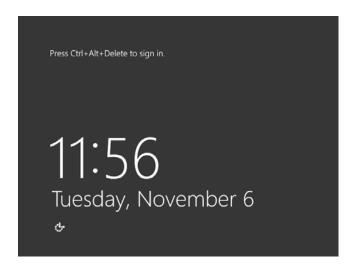
Screen displayed when Starter Pack is being installed

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).

Please read the 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
<ul> <li>the software installer that distributes the software with the server.</li> </ul>
Please read them. They apply to the software named above, which includes the media on which you received 8, if any. The terms also apply to any Microsoft
t opdates,
* supplements,
Internet-based services, and
· support services
for this software, unless other terms accompany these items. <b>J</b> so, those terms apply, <b>J</b> you obtain updates or supplements directly fram Neccoult, alor poult, and the monotacteer or insider. Seriors block to you. Fixed paper learne terms, which way came with the sythows, the place of any or obstem learner terms.
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 Setur	p is comp	is 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.

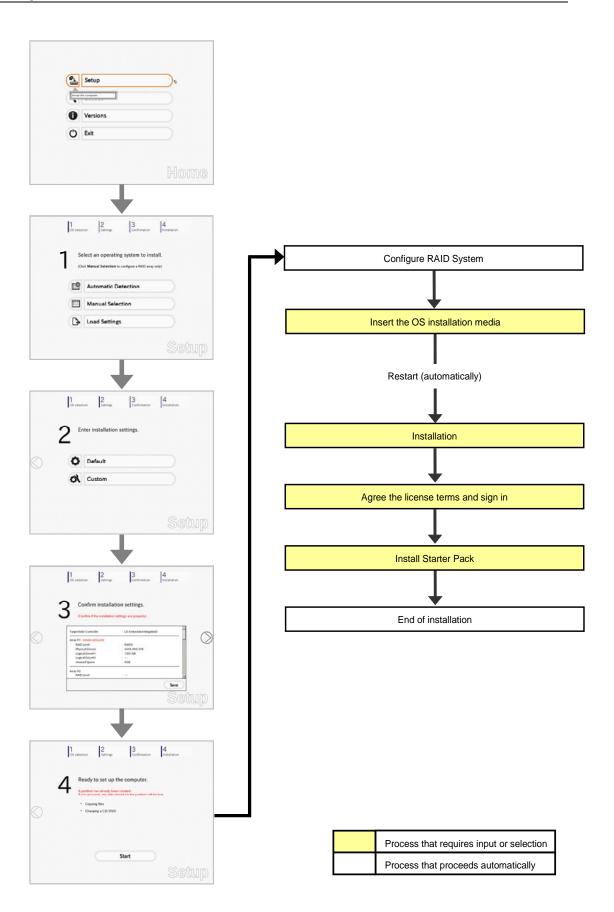
# **3.3** Setup with Windows Standard Installer

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	<ul> <li>Setup with Windows Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally).</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>.</li> </ul>

## *3.3.1* Setup flow



## 3.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

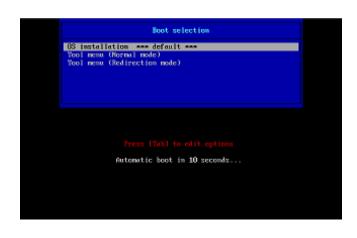
Express5800/T120e Installation Guide (Windows)

## *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	₽
Set up the computer.	
Versions	
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.
- arameter 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:

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

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

Select an operating system to install. (Click Manual Selection to configure a RAID array only) Automatic Detection Select an operating system automatically with an installation Stion	
Select an operating system	
Select an operating system automatically with an installation disc.	
Load Settings	

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

	OS selection	2 Settings	3 Confirmation	4 Installation	
0	Question				
	To chec	k your OS installatio	on disc, insert it into the [ Mess	computer. age ID : B2014 ]	
	?				
-		ОК	Cancel		
				Sei	tun

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

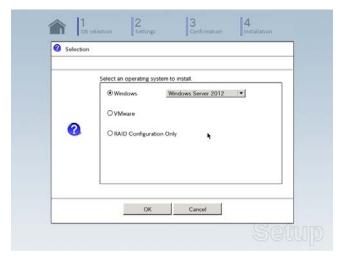
elect an operating system to install.
Automatic Detection
Load Settings

### To select an OS from the menu:

(1) Click Manual Selection.

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

(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		lect an operating system to install.
•	(Clic	ck Manual Selection to configure a RAID array only)
E	0	Automatic Detection
•		Manual Selection
(	3	Load Settings

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

1000	lect an operating system to install. ck Manual Selection to configure a RAID array only)
e	Automatic Detection
	Manual Selection
	Load Settings

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

Places	Name	Modified     77/26/2012
File System	D usb1	Unknown
	:	
∯ Add — Be	move	
		🗶 Cancel 🛛 🗁 Open

Tips

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

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

	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	selection 2 Settings	3 Confirmation	4 Installation	
2	Enter installation	n settings.		
)	Default			C
~ (	Custom			
			Set	UP

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

	1 2 3 C6 selection Settings Conf	imation Installation
	2 Enter installation settings.	
)	Default	
	Custom	ø
	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 no		ed to the following RAID cont hardware configuration.	roller.
Device Information			58-52
RAID Controller		: LSI Embedded MegaRAID	Detail
Number of Physical	Devices	: 1	
-Summary of RAID			
Array #1 RAIDO (1disk) Logical Drive1 (18	61GB)		*
RAID Configuration			
Skip a RAID Cor	nfiguration		
			1 / 10 Page
	Next		Cancel

### When creating new logical drives

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

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

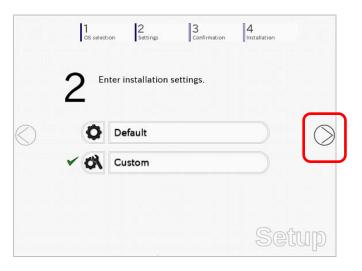
When skipping the creation of new logical drives Select the Skip a RAID Configuration check box, and then click Next.

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

Choose Use Windows standard installer, modify the settings as needed, and then click Next.

Wir	ndows standard Install I can install easily both W PRESSBUILDER.	er.		allation disc when you select stall Windows using	
Γ	Basic Settings Operating system	: W	indows Server 2012	1	_
	O Use Windows sta ☐ Copy OEM d	indard installer frivers to removable	media		
	Edition Language Time zone	Standard(Fo	ER ill Installation) )) Pacific Time (US &	Canada)	
				4 / 10 Pa	ge
	Back	Next		Cancel	I.

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



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

3 Confirm installation settings. (Confirm if the installation settings are properly) Target RAID Controller E LSI Embedded MegaRAID Array #1 : Initialized(Cuick) RAID Level E SAIDO Physical Device SAIDA Physical Device SA	1 OS selection Settings	Confirmation	
Confirm if the installation settings are properly)			
Confirm if the installation settings are properly)	<b>A</b>		
Target RAID Controller     : LSI Embedded MegaRAID       Aray #1: minakred(Guick)       RAID Level     : RAID0       Physical Device     : SATA #00 2TB       Logical Drive#1     : 1861GB       Logical Drive#2     :       Unived space     : 00B	Confirm Installa	tion settings.	
Target RAID Controller     : LSI Embedded MegaRAID       Aray #1 : initialized(Ouick)       RAID Level       Physical Device       Physical Device       Logical Drive#1       Logical Drive#2       Unived space       OGB		and the second	
Array #1 : initialized(Quick) RAD Level : RAIDO Physical Device : SATA #00 2TB Logical Drive#1 : 18610B Logical Drive#2 : Unixed Space : 0GB Array #2	Continue installation	i settings are propeny)	
Array #1 : minalized/Quick) RAD Level : RAID0 Physical Device : SATA #00 2TB Logical Drive#1 : 1861.0B Logical Drive#2 : Unused Space : 0GB Array #2			
RAID Level : RAIDO Physical Device : SATA #00.2TB Logical Drive#1 : 1861GB Logical Drive#2 : Unuced Space : OGB Array #2	Target RAID Controller	: LSI Embedded MegaRAID	5
Physical Device : SATA #00 2TB Logical Drive#1 : 1861 GB Logical Drive#2 : Unused Space : 0GB Arrey #2	Array #1 : Initialized(Quick)	_	( )
Logical Drive#1 : 1861GB Logical Drive#2 : Unuxed Space : 0GB 	RAID Level	: RAID0	~
Logical Drive#2 : Unuxed Space : 0GB Array #2	Physical Device	: SATA #00 2TB	
Unused Space : 068	Logical Drive#1	: 1861GB	
Array #2	Logical Drive#2	5	
	Unused Space	: OGB	
	Array #2		
RAID Level	RAID Level	:	
Save		Save	

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

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

		1 OS selection	2 Settings	3 Confirmat	tion	4 Installation
$\bigcirc$	Z	An installe All data cr • Cont • Char	rou are read ation partition alrea urrently on the part figuring RAID array nging a CD/DVD Illing an OS	dy exists. Stion will be delete		
				Start	$\supset$	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.

	Insert an OS installatio	n disc for installing.	[ Message ID	J2000 1
0				

- 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.



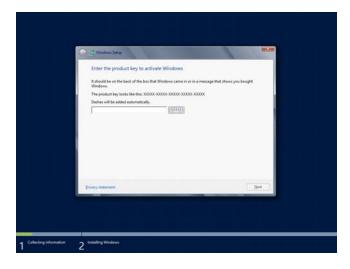
16. Click Install now.

Windows setup starts.

<u>í</u>	Windows Setup	
	Windows Server 2012	2
	Install now	
<u>R</u> epair your computer		

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.



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

Select the operating system you want to install			
Operating system	Architecture	Date modified	
Windows Server 2012 Standard (Server Core Installation)	x64	7/26/2012	
Windows Server 2012 Standard (Server with a GUI)	x64	7/26/2012	
supported. You can switch to a different installation option la Options."	AND ARE HINDOWS	anna mudilation	
	_	<u>Ne</u>	st

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	
<ul> <li>the software installer that distributes the software with the server.</li> </ul>	
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,	
<ul> <li>supplements,</li> </ul>	
□   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.

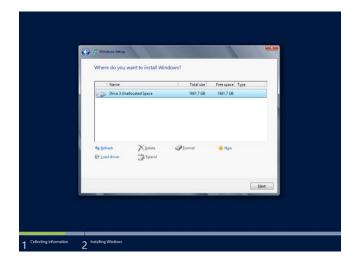
Which type of installation do you want?
Upgrade: Install Windows and keep files, settings, and applications The files, settings, and applications are moved to Windows with this option. This option available when a supported version of Windows is already running on the computer.
Sustant: Install Windows only (advanced) The file, settings, and applications aren't moved to Windows with this option. If you war make changes to particles and drive, start the computer using the installation disc. We recommend backing up your files before you continue.
Edip me decide

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

Name	Total size	Free space Type	
Drive 3 Unallocated Space	e 1861.7 GB	1861.7 GB	
😫 Load driver			
		Nex	

If the hard disk drive already contains an OS, go to the next step. If a partition has already been created, go to step 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 Unallor	cated Space	1861.7 GB	1861.7 GB	
€n Betrech	N Delete	Size 1906394		Cancel

**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.



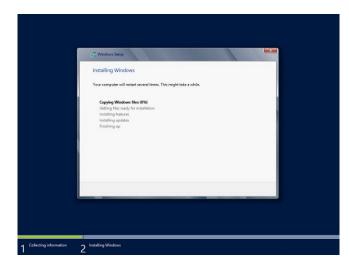
24. Select the partition created in step 22, and then click Format.

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

1861.4 GB 1861.4 GB Primary -		artition 1: System Reserv	Drive 3 Part	0
		rtition 2	Drive 3 Part	S.
	9	X Delete	resh Id driver	fy Belo

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

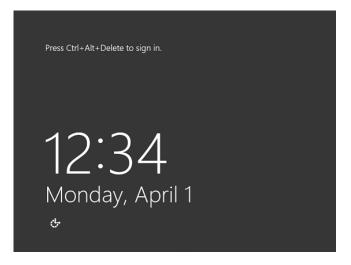
When the following message appears, Windows installation starts automatically.



26. Type a password and click Finish.

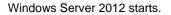
	Setting Type a password for t to this computer.	) S he built-in administrator account that you can	use to sign in
	User name	Administrator	
	Password		
	Reenter password		
¢			Finish

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



28. Type the password and press Enter.

¢	Administrator Signed In Password
Ŷ	Windows Server 2012



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

Server wi	th a GUI	_	
	4	Serve	r Manager
	💮 - 🛛 •• Dashbo	ard	• 🕄   🏲 Manage Iools View Lielp
	📰 Dashboard	WELCOME TO SERV	/ER MANAGER
	Local Server		1 Configure this local server
		QUICK START	2 Add roles and features
		WHAT'S NEW	Add other servers to manage     Create a server group
			710
		LEARN MORE	Hide
		ROLES AND SERVE Roles 1   Server grou	R GROUPS ps. 1   Servers total: 1

#### Server Core Installation



Tips

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

- 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.)
	<ul> <li>If the system was restored using a restore process</li> </ul>
	– 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 I	Menu	Version 7.00.000.00 (000)
	Instruction Manual	
0	Versions	
F	Integrated Installation	
	Applications	
×	Exit	

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

Starter Pack	n if you want to reinstall	IC.	
O Applications			
NEC ESMP Express Re Express Re			
Universal F Product Inf	o Collection Utility		
Expressop	Jate 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:\005\win\winnt\bin
```

C:\Users\administrator>cd /d D:\005\win\winnt\bin

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

Pkgsetup.vbs

D:\005\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.

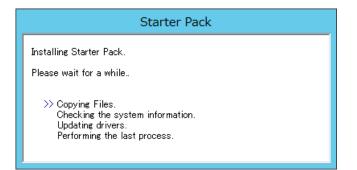
	Starter Pack	×
0	Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot.	
	OK	

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	x
Ì	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	

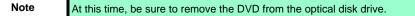
6. Click **OK** to restart the system.

Installation of Starter Pack is now complete.

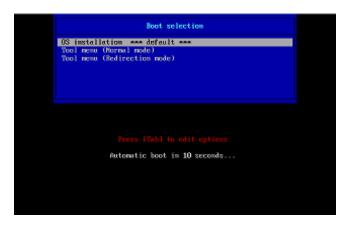
### 3.4.2 When using Internal Flash Memory

(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.



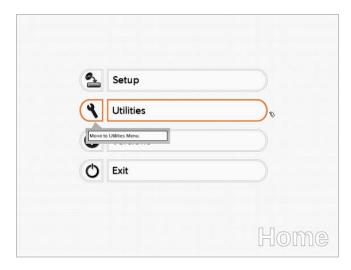
The server starts from EXPRESSBUILDER.



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



5. Click Utilities.



6. Click Starter Pack Installation.

<b>.</b>	RAID Configuration Data	
	File Execution	
8	Starter Pack Installation	
Install S Window	narter Pack to the installed Memory	

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

				_
	rter Pack into the driv vant to proceed ?	e where Window	s has been installed.	
		[ M	essage ID : P2000 ]	
?				

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

	on
	Starter Pack has been copied.
0	Click <b>Close</b> 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

 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:\

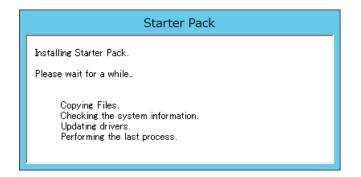
(2) Enter the following, and then press <Enter> key.

app\_pkg.bat

A:\>app\_pkg.bat

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

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



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

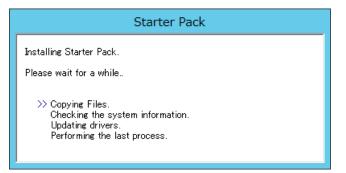
	Starter Pack	×
?	Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot.	
	OK Cance	

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.

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

Installation of Starter Pack is now complete.

# **3.5** 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	<ul> <li>Teaming of network adapters by using BACS or PROSet is not supported.</li> <li>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.</li> </ul>
Note	<ul> <li>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.</li> <li>Be sure to select the Internet Protocol (TCP/IP) check box when specifying an IP address.</li> </ul>

### (2) Optional LAN board

This server supports the following optional LAN boards.

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:\005\win\winnt\ws2012\lan\intel

If Starter Pack was installed from Internal Flash Memory:

System Drive:\StartPKG\ws2012\lan\intel

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

Setup is now completed.

Note

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

### (3) Network adapter name

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

### Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx\*

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

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

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

Tips

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

# 3.5.2 Setting up LAN drivers

#### (1) Setting link speed

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

Tips

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

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

The link speed setting is now complete.

#### (2) Using N8104-132/133/138

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

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

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:\005\win\winnt\ws2012\lan\bcom\ws2012x64\lan

#### If Starter Pack was installed from Internal Flash Memory:

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

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:\005\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

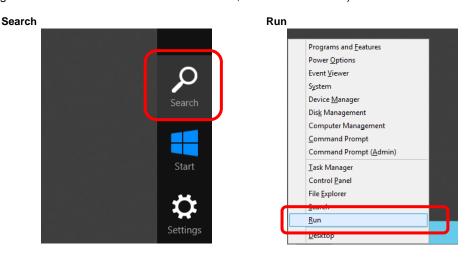
To use Windows Server 2012, you need finish the license authentication procedure.

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

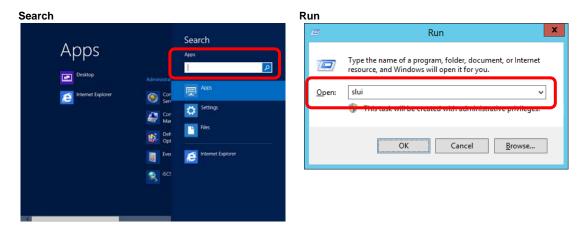
Connect to the Internet to perform the authentication procedure.

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
m.	Windows isn't activated Windows can't be activated optimore. Try activiting Windows late: If this issue penists, 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	
3	Integrated Installation	$\supset$
	Applications	
M	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.

I these software. cannot select applications if your system have not installed Starter Pack. nstall application if you want to reinstall it. tarter Pack upplications @INEC ESMPRO Agent @Express Report Service @Express Report Service(HTTPS) Universal RAID Utility	
nstall application if you want to reinstall it. tarter Pack pplications ☑ INEC ESMPRO Agent ☑ Express Report Service ☑ Express Report Service(HTTPS)	
pplications ØNEC ESMPRO Agent ØExpress Report Service ØExpress Report Service(HTTPS)	
☑NEC ESMPRO Agent ☑Express Report Service ☑Express Report Service(HTTPS)	
☑ Express Report Service ☑ Express Report Service(HTTPS)	
Product Info Collection Utility ExpressUpdate Agent	
Install Cancel	
Install Cancel	

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

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

The selected applications are automatically installed.

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

Now installation of applications is completed.

# **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	<ul> <li>For details, refer to the following Microsoft website:</li> </ul>
	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 th
	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 <sup>·</sup>

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.

ne nis

#### (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.         t       Configures teaming on the NIC side without depending on the switch settings.			
Switch Independent				
LACP	Configures dynamic aggregation between the NIC and switches.			

#### Load balancing mode

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

#### Standby adapter

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

Setting all adapters to active mode is also possible.

#### Primary team interface

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

#### (3) Notes and restrictions

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

# **4.** Setting Up Windows Server 2008 R2

Set up Windows Server 2008 R2.

# **4.1** Before Starting Setup

Read through the cautions explained here before starting setup.

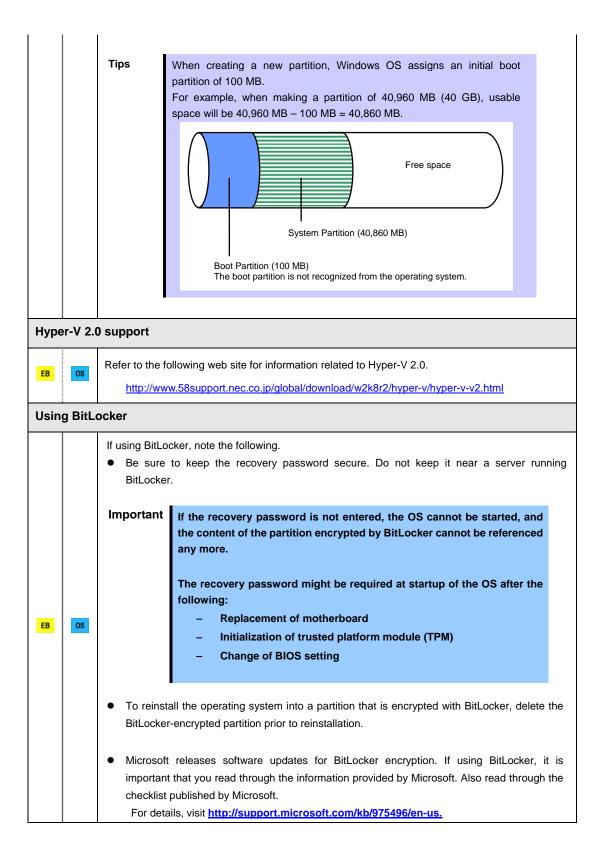
- **EB** : Confirm during Setup with EXPRESSBUILDER
- **OS** : Confirm during Setup with Windows standard installer

Hard	lware o	configuration
		The following hardware configurations require special procedures.
EB	OS	Reinstalling to a mirrored volume When you install Windows Server 2008 R2 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.
EB	OS	<b>Peripheral devices such as RDX/MO</b> 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	<b>DAT, LTO, and similar media</b> Do not set media that is unnecessary to installation during setup.
EB	OS	<b>Connecting to multiple hard disk drives (logical drives)</b> 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.

Example	e of incorrect setting 1
	aging file whose size is smaller than the installed memory size aging file whose size is "installed memory size + 300 MB" or mor
col	e paging file in drive C is used for collecting memory dump, but lection may fail because the size of the paging file is smaller than the talled memory size.
Example	e of incorrect setting 2
D: Pa	aging file whose size is "installed memory size × 0.5" aging file whose size is "installed memory size × 0.5" aging file whose size is 300 MB
but	total 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 for lecting memory dump.
Example	e of incorrect setting 3
D: Pa	o paging file exists aging file whose size is "installed memory size + 300 MB" or more dynamic volume)
-	ing files in a dynamic volume cannot be used for collecting memory
-	ive other than the system drive for "Dedicated Dump File".
-	egistry shown below by using the Registry Editor and specify the r
eate the re	egistry shown below by using the Registry Editor and specify the r
eate the re	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM
eate the re dicated Du	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D>
eate the re dicated Du When spe Key:	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
eate the redicated Duck When specific Key: Name:	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile
eate the re dicated Du When spe Key: Name: Type: Data:	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
eate the re dicated Du When spe Key: Name: Type: Data: Note the fo	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
eate the re dicated Du when spe Key: Name: Type: Data: Note the fo • Pay s	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
eate the re dicated Du When spe Key: Name: Type: Data: Note the fo Pay s • The s	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys Ilowing when specifying Dedicated Dump File: strict attention to edit the registry. setting is applied after restarting the system.
eate the re dicated Du When spe Key: Name: Type: Data: Data: Note the fo Pay s The s Spec	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys Ilowing when specifying Dedicated Dump File: strict attention to edit the registry. setting is applied after restarting the system. ify a drive that has free space of "installed memory size + 300 MB" of
eate the re dicated Du When spe Key: Name: Type: Data: Note the fo Pay s The s Spec Dedic	egistry shown below by using the Registry Editor and specify the rump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys Illowing when specifying Dedicated Dump File: strict attention to edit the registry. setting is applied after restarting the system. ify a drive that has free space of "installed memory size + 300 MB" of cated Dump File cannot be placed in dynamic volumes.
eate the re dicated Du When spe Key: Name: Type: Data: Note the fo Pay s The s Spec Dedic	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys Illowing when specifying Dedicated Dump File: strict attention to edit the registry. setting is applied after restarting the system. ify a drive that has free space of "installed memory size + 300 MB" of cated Dump File cannot be placed in dynamic volumes.
eate the re dicated Du When spe Key: Name: Type: Data: Data: lote the fo Pay s The s Spec Dedic To co any c	egistry shown below by using the Registry Editor and specify the r ump File. ecifying the file named "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys Illowing when specifying Dedicated Dump File: strict attention to edit the registry. setting is applied after restarting the system. ify a drive that has free space of "installed memory size + 300 MB" of cated Dump File cannot be placed in dynamic volumes.

	The system partition size can be calculated by using the following formula. Size required to install the OS + paging file size + dump file size + application size				
0120100	duiled to install the OO + paging				
Full ins	tallations				
Size	required to install the OS	<ul> <li>= 15,600 MB</li> <li>(Windows Server 2008 R2 + Service Pack 1)</li> <li>= 8,400 MB</li> <li>(Windows Server 2008 R2 with Service Pack 1</li> </ul>			
		= 8,000 MB (Windows Server 2008 R2)			
Pag	Paging file size (recommended)	(Windows Server 2008 R2) = installed memory size × 1.5			
-	np file size	= installed memory size + 300MB			
Арр	lication size	= as required by the application			
Server	Core installations				
Size	required to install the OS	= 11,100 MB			
		(Windows Server 2008 R2 + Service Pack 1) = 3,700 MB			
		(Windows Server 2008 R2 with Service Pack 1)			
		= 3,500 MB			
Deg	ing file cize (recommended)	(Windows Server 2008 R2)			
-	ing file size (recommended) np file size	= installed memory size × 1.5 = installed memory size + 300MB			
	lication size	= as required by the application			
	MB + (1,024MB × 1.5) + 1,024 360MB + application size				
	e mentioned partition size is the at the partition size is ufficient	e minimum partition size required for system installatio for system operations.			
The follow	ving partition sizes are recomm	ended.			
	ull installations	32,768MB(32GB) or more			
		10,240MB(10GB) or more			
	I GB = 1,024 MB				
Note	<ul> <li>information (dump file) file must be large enough Make sure you set a insufficient, there will be inability to collect corree</li> <li>Regardless of the size the maximum size of the</li> <li>When installing other</li> </ul>	sufficient paging file size. If the paging file is the a virtual memory shortage that may result in an			



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

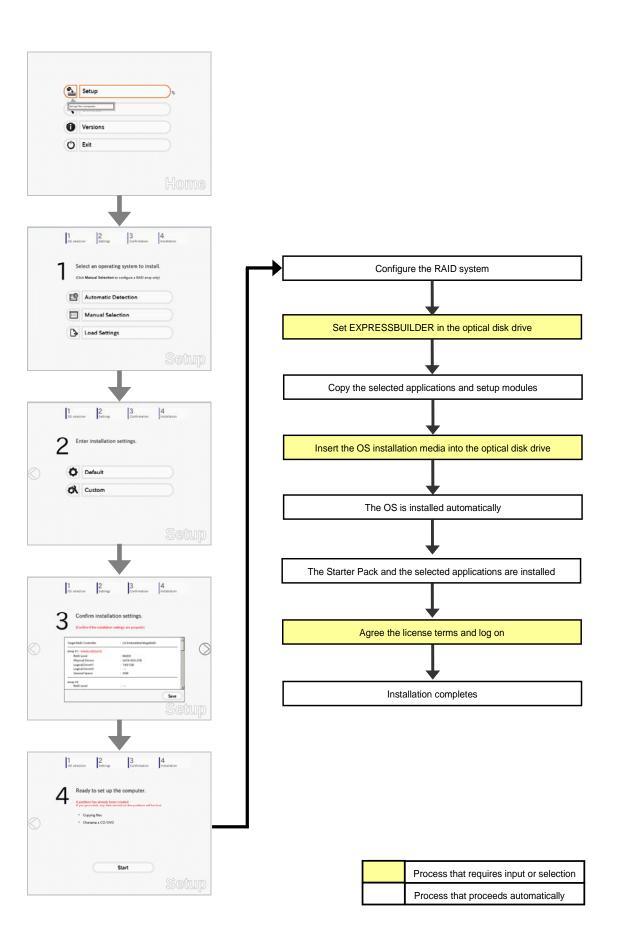
# **4.2** Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

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

Important	<ul> <li>Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: <ul> <li>RAID settings</li> <li>Partition Settings</li> </ul> </li> <li>Backing up user data, as needed, is recommended.</li> </ul> <li>Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup.</li>
Note	<ul> <li>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.</li> <li>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.</li> </ul>
Tips	<ul> <li>Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on removable media or Internal Flash Memory (if purchased optionally).</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File)</i>.</li> </ul>

# 4.2.1 Setup flow



### 4.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
  - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
  - Microsoft operating system installation media (hereafter referred to as *Windows Server 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/T120e Installation Guide (Windows)

92

# 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ください。 Select the language for displaying.	
日本語         ● English           ● Français         ● Italiano           ● Deutsch         ● Español	
ОК	

5. Click Setup.

Set up the computer.	7	
Versions		
C Exit		

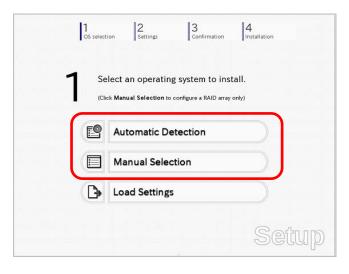
- 6. On the **OS selection** menu, select the OS to install or specify the parameter file.
  □ When not using parameter file : Go to Step 7.
  - □ When using a parameter file : Ge

: 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 2 3 OS selection Settings Confirmation	Installation
Select an operating system to in (Click Manual Selection to configure a RAID arr	
Automatic Detection	<i>₽</i>
Select an operating system automatically with an installation disc.	
Load Settings	
	Setup

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

Question				
	To check your OS insta		o the computer. Message ID : B2014 ]	
3				
	ОК	Cancel	1	

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

1	Se	lect an operating system to install.
	(Clie	ck Manual Selection to configure a RAID array only)
*	e	Automatic Detection
		Manual Selection
	B	Load Settings

To select an OS from the menu:

(1) Click Manual Selection.

1	Select an operating system to i (Click Manual Selection to configure a RAID a	
E	Automatic Detection	
	Manual Selection	Ø
	ou can select the target OS of single can select the target OS of	

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

	Select an operating system to install.	
	Windows Server 2008 R2	
	OVMware	
2	O RAID Configuration Only	
	*	
		1

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

1	Se	lect an operating system to	install.	
I	(Clie	ck Manual Selection to configure a RAID	) array only)	
*	Ľ	Automatic Detection		ſ
		Manual Selection		C
	<b>P</b>	Load Settings		

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

OS select	ion 2 3 A Installation
	elect an operating system to install.
e	Automatic Detection
	Manual Selection
Þ	Load Settings
Load in	stallation settings. Settu

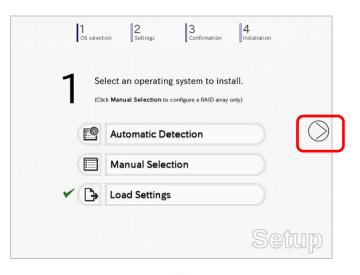
Follow the on-screen instruction to load the parameter file (\*.tre).

Places	Name	Modified
File System		
♣ Add = Ber	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.

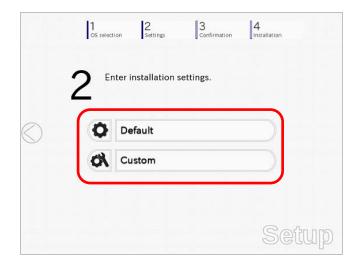


On the following screen, click  $\bigcirc$  on the right side of the screen. Click **Custom** to check and modify the setting in the wizard.

	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**.

ł	nter the minimum settings to you want to use the Window:	s standard installer,	click Custom.	
1	Basic Settings			
	Operating system	: Windows Ser	rver 2008 R2	
	Edition	Standard(Fu	ll Installation)	
	Language	English -	5.	
	Typing Administrator Pa	ssword		
	Administrator Passwo	rd	±	(Required)
	Reenter Administrator	Password	2	(Required)
		Finish		Cancel

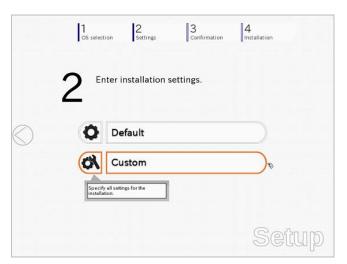
(3) Click  $\bigcirc$  on the right side of the screen.

	1 os s	election 2 Settings	3 Confirmation	4 Installation	
	2	Enter installation	settings.		
C	~ (	Default			$\bigcirc$
	Ø	Custom			
				Set	gu

 $\rightarrow$  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) ' peical 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.

Windows standard installe You can install easily both Win EXPRESSBUILDER.		ons when clicking Ins	tall Windov	vs using
Basic Settings				
Operating system	: Wi	ndows Server 2008 I	R2	
O Use Windows stan	dard installer vers to removable n	nedia		
C 🗇 Install Windows usin	ng EXPRESSBUILD	ER		
Edition	Standard(Fu	ill Installation)		
Language	English •			
Time zone	_(UTC-08.00	0) Pacific Time (US & I	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			10.00000000000
	<ul> <li>Type a partition</li> </ul>		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**.

Personalize the computer. Type Computer Name within 15 chai Administrator Password requires from three of the following categories	more than 6 characters, and	must contain characters wercase/signs).
User information		
Computer name	: 🗹 Auto	
45	1-1993-0123456	(Required)
User name	: Administrator	
Administrator Password	1	(Required)
Reenter Administrator Passwor	d :	(Required)
		6 / 10 Pag

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

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

	address, choose Custor	m Settings, click Advanced.	
Network protocols			
Standard set	tings		
Custom setti			
Standard adap	oter - Internet Protocol (IF	Pv4) 👻 Advanced	
		7 / 10	0 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<br/>standard network boards.After finishing Setup with EXPRESSBUILDER, specify the optional network<br/>settings again.
- (7) Specify the domain or workgroup.
  - Check the settings, modify them as needed, and then click Next.

Join this computer to a domain or a Choose <b>Workgroup</b> or <b>Domain</b> ,	and then enter	parameters.		
┌─				
Workgroup name	: [	WORKGROUP		
O Join a domain				
Domain name	: [			
Account name	: [			
Password	:			
Reenter password	÷L			
			8 /	10 Page
Back	ext		Cance	a [

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

Server roles         Web server(IIS)       Print and Document services         DHCP server       File services         Windows features       Advanced         Simple TCP/IP services       Advanced         WINS server       9 / 10 Page         Back       Next       Cancel	Choose Windows components you want to in	stall.	
DHCP server       File services         DNS server       Hyper-V         Windows features       Advanced         Simple TCP/IP services       MiNS server         9 / 10 Page       9 / 10 Page	Server roles		
DHCP server       File services         DNS server       Hyper-V         Windows features       Advanced         Simple TCP/IP services       MININS server         WINNS server       9 / 10 Page	Web server(IIS)	Print and Document services	
DNS server Uindows features SNMP service SIMP services WINS server 9 / 10 Page			
SNMP service Advanced Sumple TCP/IP services WINS server 9 / 10 Page		□ Hyper-V	
Simple TCP/IP services WINS server 9 / 10 Page	Windows features		
9 / 10 Page	SNMP service	Advanced	
UNINS server	Simple TCP/IP services		
Back Next Cancel		9 / 10 Page	
	Back Next	Cancel	

Choose Windows components you wa	nt to install.
Server roles	
Web server(IIS)	Print and Document services
DHCP server	File services
DNS server	□ Hyper-V
Windows features	
SNMP service	Advanced
WINS server	
	9 / 10 Page
	57 10 1 uge
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 <b>Des</b>	cription.
List of applications	Selected applications
2	NEC ESMPRO Agent
	Express Report Service
	Add >> Express Report Service(HTTPS)
	Universal RAID Utility ExpressUpdate Agent
Description	
-	
	10 / 10 Page

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

	nter installation settings.	
2		
Q	Default	
1 44		

10. Check the parameter settings.

To save the settings, click Save.

Confirm Instal	lation settings.		
	and a state of the second state		
(Confirm if the installati	ion 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	7		
Unused Space	: 0GB		
Array #2			
RAID Level	: ***		
		Save	
		Save	

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

11. The setup process starts.

Click Start to continue setup.

	4		up the comp dy been created data stored on the p	
0		<ul> <li>Configuring RA</li> <li>Copying files</li> <li>Changing medi</li> </ul>	ID system	
			Start	

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 EX	PRESSBUILDER.		[ Message II	0 : J2002 ]
0					
	-	ОК	Cancel		

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

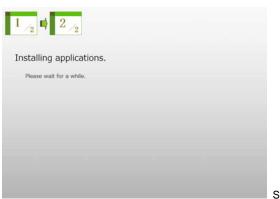
Selection	n		
	insert the OS installation d		_
	Click OK to proceed to th (30-90 minutes until comp		
		I keyboard during the setup until the	
-	prompt screen appears.		
		[ Message ID : J200	4]
	ОК	Cancel	
	OK	Cancel	

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	se read the license terms
MIC	CROSOFT SOFTWARE LICENSE TERMS
MIC	CROSOFT WINDOWS SERVER 2008 R2 STANDARD
whe soft	ise license terms are an agreement between Microsoft Corporation (or based on ere you live, one of its affiliates) and you. Please read them. They apply to the worre named above, which includes the media on which you received it, if any. The ms also apply to any Microsoft
2	updates,
2	supplements,
	Internet-based services, and
•	support services
- 11	accept the license tems

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



# Full installations:

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

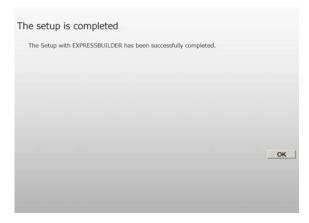


#### Server Core installations:

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



#### 17. Click OK.



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

Setup with EXPRESSBUILDER is now complete.

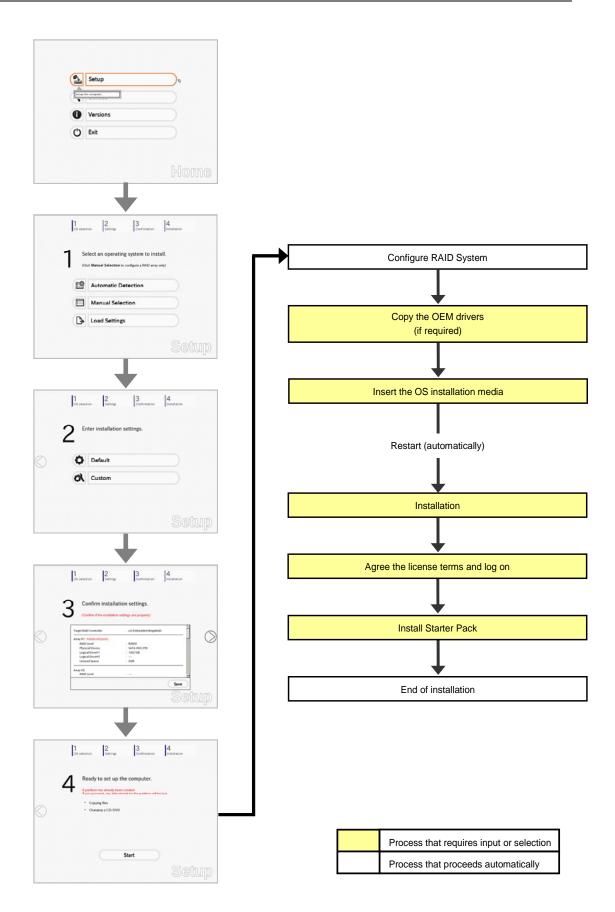
# **4.3** Setup with Windows Standard Installer

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

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

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

# 4.3.1 Setup flow

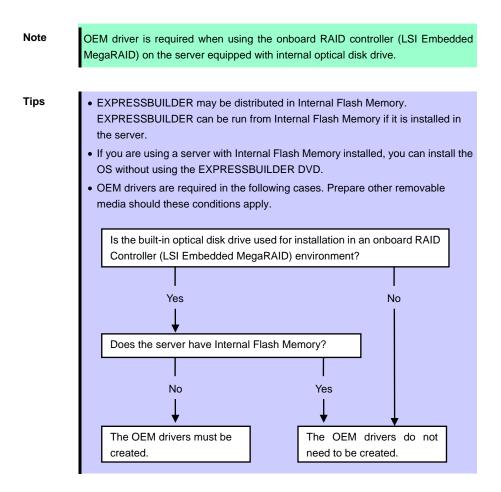


## 4.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

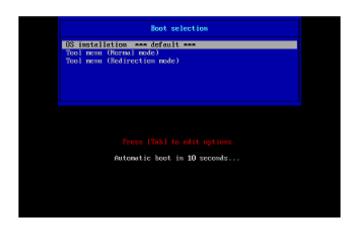


# 4.3.3 Setup procedure

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.

Setup	₽
Set up the computer.	
Versions	
🖒 Exit	

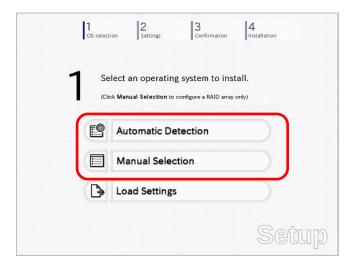
6. On the **OS selection** menu, select the OS to install or specify the parameter file.

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

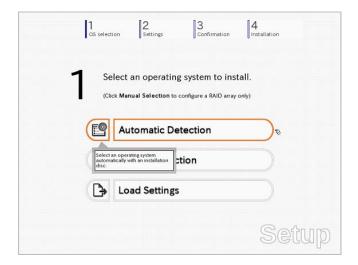
: Go to Step 7. : Go to Step 8.

**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.

Question			
	To check your OS installa		ne computer. ssage ID : B2014 ]
2			
	OK	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.

<b>1</b> se	elect an operating system to i	nstall.
(CI	ick Manual Selection to configure a RAID a	rray only)
6	Automatic Detection	
	Manual Selection	a C
You cathe ins	an select the target OS of tailation 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 instal	
•	(Clie	ck Manual Selection to configure a RAID array on	y)
	Ľ	Automatic Detection	
~		Manual Selection	$\supset$
	₿	Load Settings	

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

1 s	elect an operating system to install.
(C	lick 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
File System	🖻 cdrom1	Tuesday
-		
4 Add - B	emove	-
		X Cancel
		Sett

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

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

	Select an operating system to install. (Click Manual Selection to configure a RAID array only)
•	
× 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.

	Co Jaec	ion 2 Settings	3 Confirmation	Installation	
	2 "	nter installation	settings.		
)	0	Default			
	~ 01	Custom			
				Sei	iur

 $\rightarrow$  Go to step 10.

9. Click Custom.

	1 2 3 OS selection Settings C	onfirmation 4
	2 Enter installation setting	s.
)	Default	
	Custom	<i>s</i>
	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.

Install an operating system to the If the RAID controller is not corr			roller.
Device Information			
RAID Controller		: LSI Embedded MegaRAID	Detail
Number of Physical Devic	es	: 1	
Summary of RAID			
Array #1 RAID0 (1disk) Logical Drive1 (1861GB)			<u>*</u>
RAID Configuration			M
Skip a RAID Configura	tion		
			1 / 10 Page
	Next		Cancel

#### When creating new logical drives:

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

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

When skipping the creation of new logical drives:

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

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

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

Windo You car	ws standard install	er.		allation disc when you stall Windows using	
	ic Settings Operating system	: W	ndows Server 2008	R2	
	Use Windows sta     Copy OEM d	rivers to removable r	nedia no uli Installation)	¥	
	Language Time zone	: Englishi *	0) Pacific Time (US &		
				4 )	10 Page
	Rack	Next		Can	cel

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

<ul> <li>Enter installation setting</li> </ul>	s.	
Default		
Custom		

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

3 Confirm installation settings. (Confirm it the installation settings are properly) Target RAID Controller : LSI Embedded MegaRAID Array #1 : instakted(Coack) RAID Level : RAID0 Physical Device : SATA #00 2TB Logical Diverte 1 : Sata #00 2TB Logical Diverte 2 : Unused Space : 0.03B Array #2 RAID Level :					
Confirm if the installation settings are properly)          Target RAID Controller       :: LSI Embedded MegaRAID         Array #1       ::minableed(Guck)         RAID Level       :: RAID0         Physical Device       ::: SATA #00 2TB         Logical Dirve#1       ::: Biol GB         Logical Dirve#2       ::         Unused Space       ::: GGB         Array #2       ::         RAID Level       ::					
Confirm if the installation settings are properly)          Target RAID Controller       :: LSI Embedded MegaRAID         Array #1       ::minableed(Guck)         RAID Level       :: RAID0         Physical Device       ::: SATA #00 2TB         Logical Dirve#1       ::: Biol GB         Logical Dirve#2       ::         Unused Space       ::: GGB         Array #2       ::         RAID Level       ::		n installatio	on settings		
Target RAD Controller     : LSI Embedded MegaRAD       Array #1 ::minalxed(Ourck)       RAID Level     : RAID0       Physical Device     : SATA #00 2718       Logical Drive#1     : 1861 GB       Logical Drive#2     :       Unixed Space     : 0GB       Array #2     :	$\prec$	in mistanatic	in settings.		
Target RAD Controller     : LSI Embedded MegaRAD       Array #1 ::minalxed(Ourck)       RAID Level     : RAID0       Physical Device     : SATA #00 2718       Logical Drive#1     : 1861 GB       Logical Drive#2     :       Unixed Space     : 0GB       Array #2     :	(Confirm if	the installation set	ttines are properly)		
Array #1 : minible ed/Guuck) RAID Level : RAID0 Physical Develo: : SATA #00 2TB Logical Drive#1 : 1861 GB Logical Drive#2 : Unuxed Space : OGB Array #2 RAID Level :	Committee a	die mistellebon sei	unga are propeny/		
Array #1 : minible ed/Guuck) RAID Level : RAID0 Physical Develo: : SATA #00 2TB Logical Drive#1 : 1861 GB Logical Drive#2 : Unuxed Space : OGB Array #2 RAID Level :				2	-
RAID Level : RAID0 Physical Device : SATA 400 2118 Logical Drive#1 : 1861 GB Logical Drive#2 : Unuxed Space : 0GB Arrey #2 RAID Level :	Target RAID Control	oller	: LSI Embedded Megal	RAID	
RAID Level : RAID0 Physical Device : SATA 400 2118 Logical Drive#1 : 1861 GB Logical Drive#2 : Unuxed Space : 0GB Arrey #2 RAID Level :	Array #1 : Initialized	d(Quick)			(
Logcal Drive#1 = 1661 GB Logcal Drive#2 = Unuxed Space = 0GB Array #2 RAID Level =		atosment	RAIDO		
Logcal Drive#1 = 1661 GB Logcal Drive#2 = Unuxed Space = 0GB Array #2 RAID Level =	Physical Devic	c	SATA #00 2TB		
Logical Drive#2 : Unuxed Space : OGB Array #2 RAID Level :			1861GB		
Unused Space : OGB Array #2 RAID Level :					
RAID Level			: OGB		
	Array #2				
Save	RAID Level		:		
Save		1			
				Save	10.00

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

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

	1 2 3 Confirmation 4 Installation
	Ready to set up the computer.
	A partition has already been created. If you proceed, any data stored on the partition will be lost.
	* Configuring RAID system
)	* Copying OEM drivers
	* Changing a CD/DVD
	<ul> <li>Installing an OS</li> </ul>
	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**.

3	Question	
		Copy OEM drivers (Windows Server 2008 R2). Set removable media, and then click <b>Yes</b> .
		[ Message ID : G2000 ]
	?	
		Yes No

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

	Insert an OS ins	stallation disc for insta	lline	
				ID : J2000 ]
0				

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

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.

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.

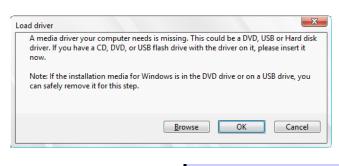


16. Click Install Now 🗐.

Windows Server 2008 R2 installation starts.



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



- 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.

Tips

If using OEM drivers (made at	step 12)
Removable media	:\OEM_Driver\ws2008r2\megasr1
If using Internal Flash Memory	]
Internal Flash N	Memory:\005\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.

Operating system	Architecture	Date modified
Windows Server 2008 R2 Standard (Full Installation)	x64	7/14/2009
Windows Server 2008 R2 Standard (Server Core Installation) Windows Server 2008 R2 Enterprise (Full Installation)	x64 x64	7/14/2009 7/14/2009
Windows Server 2008 R2 Enterprise (Full Installation) Windows Server 2008 R2 Enterprise (Server Core Installation)	x64 x64	7/14/2009
Windows Server 2008 R2 Datacenter (Full Installation)	164	7/14/2009
Windows Server 2008 R2 Datacenter (Server Core Installation)	x64	7/14/2009
Windows Web Server 2008 R2 (Full Installation)	x64	7/14/2009
Windows Web Server 2008 R2 (Server Core Installation)	x64	7/14/2009
ser interface, and it supports all of the server roles.		

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

PI	ease read the license terms	
- F	AICROSOFT SOFTWARE LICENSE TERMS	4
	AICROSOFT WINDOWS SERVER 2008 R2 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.	
	lease read them. They apply to the software named above, which includes the media on which you received it, if any. Printed paper license terms, which may come with the oftware, take the place of any on-screen license terms. The terms also apply to any increase.	
	updates,	-
9	I accept the license terms	
		Next

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

Which t	ype of installation do you want?
1	Lpgrade Upgrade to a never version of Windows and keep your files, settings, and programs. The option to upgrade is only available when an existing version of Windows is running. We recommend backing up your files before you proceed.
	Custom (advanced). Install a new copy of Windows, This option does not keep your files; settings, and program. The option to make changes to disks and partitions is available when you start your computer using the installation disc. We recommend backing up your files before you proceed.
Help me d	lecide

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: \005\win\winnt\oemfd\ws2008r2\megasas2

When using the N8103-168 RAID Controller:

\005\win\winnt\oemfd\ws2008r2\megasas2

When using the onboard RAID Controller (LSI Embedded MegaRAID) and a USB-DVD drive:  $\005\win\winnt\0emfd\ws2008r2\megasr1$ 

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]



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.

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

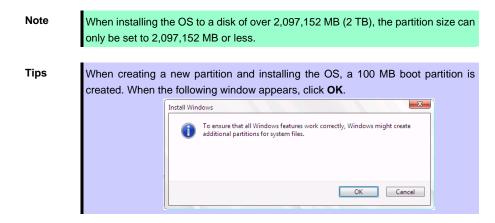
 If it appears, replace the OS installation media, and then click **Refresh**.

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 Ur	allocated Space	74.5 GB	74.5 GD	
4 Befresh Load Driver	X Delete	@Eormat	<mark>∲</mark> Ne <u>w</u>	
				Next

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



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

	Name		Total Size	Free Space	Туре
G	Contraction of the second	tion 1: System Reserved	100.0 MB	86.0 MB	System
5	Disk 0 Partit	tion 2	39.9 GB	39.9 GB	Primary
	Jefresh Joad Driver	X Delete	Sermat	举 Ngw	
					Ned

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 need right now. Your comp installation.	uter will restart several times during
Copying Windows files Expanding Windows files (0%)	
Installing features 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. **Full installations:** 



Server Core installations:



#### Tips

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

## 32. Click OK.



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

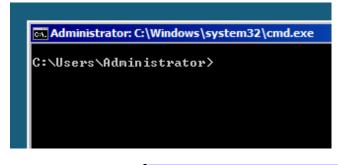
## Full installations:

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

Per	Perform the following tasks to configure this server			Vindows Server 2008	
Θ.	Provide Computer Information	6		Spectying conjulier information	
	Activate Windows	Product ID:	Not activated		
	and Set time zone	Time Zone:	(JTC-08.00) Paoño Tirre (JJS & Cenada)		
	Configure networking	Local Area Connection	Nat convected		
	Provide computer name and domain	Full Computer Name: Workgroup:	WIND15KAJAVAPS WORKEROUP		
0	Update This Server			Updating your Windows server	
	Ruble automatic updating and feedback	Updates: Feedback:	Not configured Windows Error Reporting off Not perfoqueting in Customer Experience	Increment Program	
	Townicad and initial updates	Checked for Updates: Installed Updates:	Navor Navor		
0	Customize This Server			Customating your server	
	Add roles	Ralest	Nove		
	Add features	Features:	Nove		
	General Francis Deviduo	Remote Desktop:	Deabled		
	Configure Windows Firewall	formall	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		∨ersion 7.00-000,00 (00
	Instruction Manual	
0	Versions	
	Integrated Installation	
	Applications	
	Exit	

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

Content of the starter Pac	lication if you want to re	install it		
CApplication				
E NEC E	ESMPRO Agent			
	ss Report Service			
	ss Report Service(HTTPS	5)		
E Unive	rsal RAID Utility			
E Produ	ct Info Collection Utility			
Expre	ssUpdate Agent			
	Install		Cancel	

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:\005\win\winnt\bin

C:\Users\administrator>cd /d D:\005\win\winnt\bin

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

Pkgsetup.vbs

D:\005\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.

Starter Pa	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 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.
instanting states I dok.
Please wait for a while
<ul> <li>&gt;&gt; Copying Files.</li> <li>&gt;&gt; Checking the system information.</li> <li>Updating drivers.</li> <li>Performing the last process.</li> </ul>

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

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

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

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

Installation of Starter Pack is now complete.

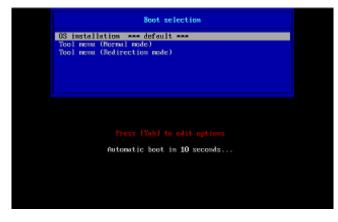
## 4.4.2 When using Internal Flash Memory

(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	
<b>Y</b> Utilities	ø
Move to Utilities Menu.	
<b>(</b> ) 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.

1 Informa	tion
	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	(VINTORE_DIVY). (app_pkg.bac
	[ Message ID : P1000 ]
	Close
	CION.

The server then restarts.

Note

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

9. Proceed application step according to the installation type.

Tips

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

#### Full installations:

Click app\_pkg.bat of Floppy disk drive (usually drive A).

#### Server Core installations:

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

Cd /d A:\

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

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

app\_pkg.bat

A:\>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.

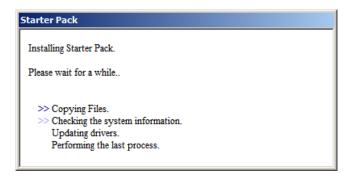
Starter Pack			
Installing Starter Pack.			
instanting statter rack.			
Please wait for a while			
>> Copying Files.			
Checking the system information.			
Updating drivers.			
Performing the last process.			
Performing the last process.			

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

Starter Pa	ack	x
?	Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables 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.

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

Installation of Starter Pack is now complete.

# **4.5** 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:\005\win\winnt\ws2008x64\r2\lan\intel

#### If Starter Pack was installed from Internal Flash Memory:

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

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

and then restart the system.

Installation Completed.

Setup is now completed.

- 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.

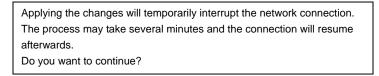
### (2) Using N8104-128

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.
- 2. 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.



- 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.

Tips

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

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

#### When using EXPRESSBUILDER DVD:

EXPRESSBUILDER DVD:\005\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:\005\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

3. When the following message appears, click OK.

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

Tips

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

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

Setup is now completed.

# 4.5.3 Setting up team/LiveLink (BACS)

Note

- For how to delete an adapter team, refer to Chapter 1 (4.5.3 Setting up team/LiveLink (BACS) (4) Procedure for deleting team).
  - Check the following points when deleting an adapter team.
  - When replacing the motherboard or optional LAN boards after an adapter team is configured, delete the adapter team first.
- If a team exists, delete the team first. If the team is bound to a Hyper-V virtual adapter, unbind the Hyper-V adapter before deleting the team.
- Be sure to specify the same Jumbo Mtu (Jumbo Packet) setting to all the adapters that compose a team.
- Do not configure the teams with adapters that use the iSCSI function.
- 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:
	<ul> <li>Between standard network adapters</li> </ul>
	<ul> <li>Between LAN cards excluding N8104-128</li> </ul>
	<ul> <li>A standard network adapter and LAN card N8104-128</li> </ul>
	When the number of adapters that composes the team is up to two:
	<ul> <li>Between N8104-128 adapters.</li> </ul>
	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 <b>Edit Team</b> . 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.

File View Action Filter Context Tools Teams iSOSI Help		
Filter: TEAM VIEW 🔽 Information 🔽 🔽 Vital Sign:	s 🔽 Driver Information	
Explorer View 6	Information Configurations	Diagnostics Statistics
🚊 000 Hosts	Property	Value
Image Trans Image Trans Image Trans Image Trans Image Trans Image Trans Manage Trans Add to a Trans Create a <u>VLAN</u>	Vital Signs     MAC Address     Permanent MAC Address     PrvA Address     Offload Capabilities     MTU     Driver Information     Driver Version     Driver Version     Driver Name     Driver Status  Vital Signs	50E54986AD60 50E54986AD60 169254156174 LSO.CO 1500 1500.9 10/3/2011 b57xp32.sys Loaded
воарсом		mation tab has useful information about the in your system, such as the link status of the ctivity.

The Broadcom Teaming wizard appears.

3. Click Next.

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

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

Note

Do not use Expert Mode.

iii Broadcom Teaming Wizard	<u>? ×</u>
Creating/Modifying a Team: Team Name You must assign your team a unique name.	BROADCOM
Enter the name for the team:	
Team 1  A team name has a maximum length of 39 characters. The name can us  &&V/V30  <sup>12</sup>	e any symbolic character except
Cancel < Back Next >	Preview 💼

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

Broadcom Teaming Wizard	?>
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	
T Enable HyperV Mode	
TCP Offload Engine (TOE) support is supported only on a SLB team type. If a tear connections will be offloaded.	m type 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."

• 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 prosecutive and our preserver up	1.0	147		1410			11000	
								1
Add								Bemove
Add								Remove
	1		1	1			1	Remove
Team Members	TOE	LSO	CO	RSS	samab	NDIS	MTU	Remove
Team Members			100000000	100000		and a second second second		Remove
	TOE	LSO Yes	CO Yes	RSS No	3amab Yes	NDIS 5.1	MTU 1500	Remove
Team Members			100000000	100000		and a second second second		Remove
Team Members			100000000	100000		and a second second second		Remove
Team Members			100000000	100000		and a second second second		<u>Remove</u>
Team Members			100000000	100000		and a second second second		Remove
Team Members			100000000	100000		and a second second second		Remove
Team Members			100000000	100000		and a second second second		<u>R</u> emove
Team Members			100000000	100000		and a second second second		<u>R</u> emove
Team Members			100000000	100000		and a second second second		<u>R</u> emove
Team Members			Yes	No	Yes	and a second second second		<u>R</u> emove
Team Members			Yes	100000	Yes	and a second second second		Remove

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

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

<u>?</u> ×
BROADCOM.
Preview 페

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



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.

ii Broadcom Teaming Wizard	<u>?</u> ×
Creating/Modifying a Team: Configuring LiveLink Do you want to configure LiveLink?	BROADCOM
Configure LiveLink?	
C Yes	
€ No	
LiveLink detects loss of network connectivity beyond the switch and n that have a live link.	outes 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		
<sup>p</sup> robe 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 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).
<ul> <li>Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum.</li> <li>If a link down is detected, failover occurs immediately after the link goes down. If takes the time specified for Probe interval (seconds) to recover from the link going down.</li> </ul>
<ul> <li>When using Tagged VLAN, input the VLAN ID for Probe VLAN ID.</li> </ul>

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

Team Name Team 1 Target 1: Target 2 Target 3 Target 4: Please enter either an IPv4 or IPv6 address for the probe targets IP address field	IP Setting		
Target 2 Target 3 Target 4	Team Name	Team 1	
Target 4	Target 1:	8000	
Target 4	Target 2:	20000	
	Target 3:		
Please enter either an IPv4 or IPv6 address for the probe targets IP address field	Target 4:		- -
Please enter either an IPv4 or IPv6 address for the probe targets IP address field			
Thedae entres entres diffit we be in the dedicers for the probe targets in dedicers field	Please enter e	ther an IPut or IPu6 address for the n	rohe targeto IP address field
	Tibdac criter e		

Tips

Note

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

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

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

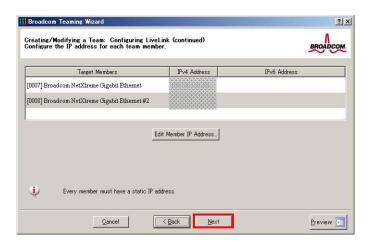
13. Enter the IP address used for LiveLink communication, and then click OK.

<mark>   </mark> LiveLink Configu	irations X
IP Setting	
Name:	[0009] Broadcom BCM57810 NetXtreme II 10 GigE (NDIS VBD Client) #161
IPv4 Address:	(11.0
OK	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**.

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

#### Note

### When the message below appears, select Yes.

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

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

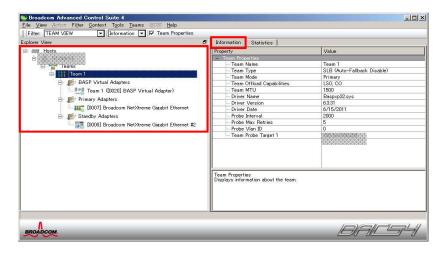
When all network adapters that configure the team are in the link down status, this is indicated as shown in the window below. Check the LiveLink settings while all adapters are linked up.

Eile         View         Action         Filter         Context         Tgols         Jeams         igOSI         Help                               Filter         TEAM VIEW         Image: Second	
Explorer View	8
	2

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

Hosts	Property — Team Properties	Value
	<ul> <li>Team Properties</li> </ul>	
Teams     T	Team Name     Team Type     Team Offload Capabilities     Team MTU     Oriver Name     Oriver Version     Oriver Date     Probe Interval     Probe Interval     Probe Interval     Tram Probe Target 1     Team Probe Target 1     Team Properties     Displays information about the team.	Team 1 Smart Losd Balancine (TM) and Failover LS0, CO 1500 Basprog2 zys 6331 6/15/2011 2000 5 0

- 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 8	Information Statistics	
🖻 🚥 Hosts	Property	Value
Teams     BASP Virtual Adapters     Construction of the second seco	Team Properties         Team Type         Team Offload Capabilities         Team MTU         Driver Name         Driver Version         Driver Date	Team 1           FEC//EC           LSO, OQ, RSS           1500           Basp.pys           1.5.3           12/19/2011
BROADCOM	<u> </u>	NAL SIL

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.

Broadcom Advanced Control Suite 4		_ 🗆 🗙
File View Action Filter Context Tools Teams iSOSI Help		
Filter: TEAM VIEW		
Explorer View 8	Information Statistics	
😑 aaa Hosts	Property	Value
Teams     Edit Team     Fr     Factor     Addy Lan     Add VLAN     Addy Lan     Addy Lan	Team Properties     Team Name     Team Type     Team Type     Team Type     Team MTU     Driver Name     Driver Version     Driver Version     Driver Version     Drobe Interval     Probe Name Retries     Probe Van ID     Team Probe Tarext 1	Team 1           Snext Load Balancing(TM) and Failover           LSO, CO           1500           Basop022ys           6331           6/15/2011           2000           5           0
	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:\005\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	ote

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

On the Settings tab, click Modify Team button.

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

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. 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.
- 6. 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:\005\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.

Control Panel +	System and Security + System		* 🗱 Search C
Control Panel Home	View basic information abo	ut your computer	
Device Manager	Windows edition		
Remote settings	Windows Server 2008 R2 5	tandard	$\frown$
Advanced system settings	Copyright (© 2009 Microsof	Corporation. All rights reserved.	<b>1</b>
	System	Intel(R) Xeen(R) CPU E5506 @ 2.13GHz 2.13 GHz	-
	Installed memory (RAM):	4.00 (8	
	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-ROSHQKRSEQ4	Change settings
	Full computer name:	WIN-ROSHQKR5EQ4	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
	Computer description:		
	Workgroup:	WORKGROUP	
	Windows activation		
	Windows is activated		all for a
	Product ID: xxxxxxxxxxxxxxxx	2000-2000	genuine
			botters
See also Action Center			Learn more online

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

When the following window appears, click Change product key.

Cope - canarate -	System and Security - System		Search Control I	randi
Control Panel Home	FICH DEPC INFORMATION DOOR	ac your compacer		
Control Panel Home	Windows edition	25.40		
Device Manager	Windows Server 2008 R2 51	andard		$\frown$
Remote settings	Copyright @ 2009 Microsoft	Corporation. All rights rese	rved.	
Advanced system settings				
				-
	System			
	Processor:	Intel(R) Xeon(R) CPU	E5506 @ 2.13GHz 2.	13 GHz
	Installed memory (RAM):	4.00 GB		
	System type:	64-bit Operating System		
	Pen and Touch:	No Pen or Touch Input is	available for this Display	
	Computer name, domain, and w	orkgroup settings		
	Computer name:	WIN-ROGHQKRSEQ4		Change settings
	Full computer name:	WIN-ROSHQKR5EQ4		
	Computer description:			
	Workgroup:	WORKGROUP		
See also	Windows activation			
Action Center	🕺 2 days until automatic a	whichline Activate Uteday	1220-1	

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

Ҟ Windows	Activation	×
🕝 🗞 w	indows Activation	
Туре	your product key	
	/indows Server 2008 R2 Standard product key can be found on the installation disc holder the Windows package. Activation will register the product key to this computer.	
The p	roduct key looks like this:	
	PRODUCT KEY: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX	
When	e do I find my Windows product key?	
<u>P</u> rodu	ct Key:	
	is activation? the privacy statement online	
	Next Cancel	

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

🎋 Windows Activation	×
S 🎋 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
	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

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

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

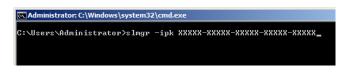
to complete this procedure. Click OK to finish.



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

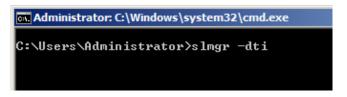
At the command prompt, enter the following, and then press <Enter> key. Set the product key found on the COA label in *PID*.

slmgr -ipk PID



3. Obtain an installation ID for Windows activation.

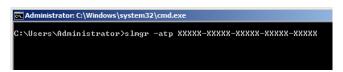
At the command prompt, enter the following, and then press <Enter> key.  ${\tt slmgr}$  -dti



- 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.

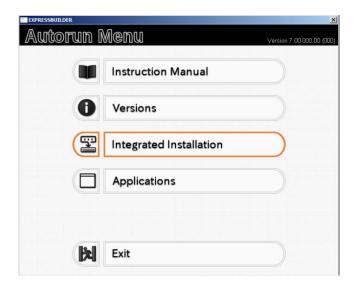
# **4.7** Applying Service Pack

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.



 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.

arter Pack pplications
REC ESMPRO Agent     Percess Report Service     Express Report Service(HTTPS)     Winiversal RAID Utility
Express Report Service     Express Report Service(HTTPS)     Universal RAID Utility
Express Report Service(HTTPS)     Universal RAID Utility
I Universal RAID Utility
Product Info Collection Utility
ExpressUpdate 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	<ul> <li>For details, refer to the following Microsoft website:</li> </ul>
	For details, refer to the following Microsoft website: <u>http://support.microsoft.com/kb/937251/en-us</u>
	• You cannot edit the drive letters for the system volume or boot volume
	after setup is complete. Make sure that the drive letters assigned in this
	window are correct, and then proceed with setup.

3. Refer to *Chapter 1 (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	<b>Reinstalling to a mirrored volume</b> 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 Chapter 1 (5.10 Installation When Multiple Logical Drives Exist).
EB	08	Reinstalling to hard disk drives that have been upgraded to dynamic disksIf the hard disk drive has been upgraded to a dynamic disk, the operating system cannot bereinstalled to it with the existing partitions.Set up the operating system with the Windows standard installer.

EB	OS	Setup 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.
		<ol> <li>Set the system partition size to a size sufficient to install the OS and paging file.</li> <li>Specify another disk as the destination to store the debug information (required dump file size) by referring to <i>Chapter 1 (6. Setup for Solving Problems)</i>.</li> </ol>
		If the hard disk drive does not have enough space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another hard disk drive for the dump file.
		<b>Note</b> If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive.
		<ul> <li>Specify a drive other than the system drive for "Dedicated Dump File".</li> <li>Create the registry shown below by using the Registry Editor and specify the name of Dedicated Dump File.</li> <li></li> <li></li> <li></li> <li>When specifying the file named "dedicateddumpfile.sys" in drive D&gt;</li> <li>Key: HKEY_LOCAL_MACHINE\SYSTEM</li> </ul>
		\CurrentControlSet\Control\CrashControl         Name:       DedicatedDumpFile         Type:       REG_SZ         Data:       D:\dedicateddumpfile.sys
		<ul> <li>Note the following when specifying Dedicated Dump File:</li> <li>Pay strict attention to edit the registry.</li> <li>The setting is applied after restarting the system.</li> <li>Specify a drive that has free space of "installed memory size + 300 MB" or more.</li> <li>Dedicated Dump File cannot be placed in dynamic volumes.</li> <li>To collect memory dump by using Dedicated Dump File, a paging file is required in any drive.</li> <li>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.</li> </ul>

	lated by using the following formula. g file size + dump file size + application size
Full installations	
Size required to install the OS	<ul> <li>= 16,720 MB</li> <li>(Windows Server 2008 + Service Pack 2 DVD-ROM)</li> <li>= 12,300 MB</li> <li>(Windows Server 2008 with Service Pack 2)</li> <li>= 11,600 MB</li> </ul>
	(Windows Server 2008)
Paging file size (recommended)	= installed memory size × 1.5
Dump file size Application size	= installed memory size + 300MB = as required by the application
Server Core installations	- 0.200 MP
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)
Paging file size (recommended)	= installed memory size × 1.5
Dump file size	= installed memory size + 300MB
Application size	= as required by the application
For example, if the installed memory siz partition size is calculated as follows:	ze is 1 GB (1,024 MB) and Full installations is selected, the
11,600 MB + (1,024MB × 1.5) + 1,0	24MB+ 300MB+ application size
= 14,460MB + application size	
The above mentioned partition size is the	he minimum partition size required for system installation
Ensure that the partition size is sufficier	nt for system operations.
	file sizes are recommended for collecting debug ). The initial size of the Windows partition paging file to store dump files.
	ufficient paging file size. If the paging file is insufficient,
Make sure you set a su there will be a virtual m correct debug informat	
<ul> <li>Make sure you set a suthere will be a virtual m correct debug information</li> <li>Regardless of the size maximum size of the dimensional siz</li></ul>	ion. Is of internal memory and write debug information, the ump file is "size of internal memory + 300 MB". applications or other items, add the amount of space

The system partition size can be calculated	ated by using the following formula.
Size required to install the OS + pagir	ng 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
	(Windows Server 2008)
Paging file size (recommended)	-
Dump file size	= installed memory size + 300MB
Application size	= as required by the application
Server Core installations	
Size required to install the OS	= 5,300 MB
	(Windows Server 2008 + Service Pack 2)
	= 9,300 MB
	(Windows Server 2008 with Service Pack 2)
	= 2,200 MB
Desing file size (recommended)	(Windows Server 2008)
Paging file size (recommended) Dump file size	= installed memory size × 1.5 = installed memory size + 300MB
Application size	= as required by the application
partition size is calculated as follows:	
6,300 MB + (1,024 MB $\times$ 1.5) + 1 application size	,024 MB + 300 MB + application size = 9,160 MB +
application size	e minimum partition size required for system installation.
application size         The above mentioned partition size is the Ensure that the partition size is sufficient         Note       • The above paging file information (dump file).         be large enough to store file size. If the paging file shortage that may result         • A paging file size of 4, partition in some system If the message promptin appears, specify 4,095 M	to minimum partition size required for system installate tor system operations. sizes are recommended for collecting debug The initial size of the boot volume paging file must e dump files. Make sure you set a sufficient paging file is insufficient, there will be a virtual memory in an inability to collect correct debug information. 096 MB or greater cannot be specified for one oconfigurations. Ing you to specify a value smaller than 4096 MB MB. size is 2 GB or greater, the maximum size of the

	lf usina Bi	tLocker, note the following.
	-	e installing an OS, be sure to create the following two partitions in the hard disk drive:
		<ul> <li>System partition (to store the loader)</li> </ul>
		<ul> <li>Boot partition (to store the OS)</li> </ul>
	Note	For details, refer to the following document provided in Microsoft TechNet:
		BitLocker Drive Encryption Step-by-Step Guide
	<ul> <li>Be su BitLoc</li> </ul>	ure to keep the recovery password secure. Do not keep it near a server running cker.
EBOS	Importa	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:
		-
÷.		<ul> <li>Replacement of motherboard</li> </ul>
		<ul> <li>Replacement of motherboard</li> <li>Initialization of trusted platform module (TPM)</li> </ul>
		<ul> <li>Initialization of trusted platform module (TPM)</li> <li>Change of BIOS setting</li> </ul>
		<ul> <li>Initialization of trusted platform module (TPM)</li> </ul>
Installing		<ul> <li>Initialization of trusted platform module (TPM)</li> <li>Change of BIOS setting</li> <li>Install the operating system into a partition that is encrypted with BitLocker, delete the operation prior to reinstallation.</li> </ul>
Installing EB 05	BitLoc Service Pace If the pack a	<ul> <li>Initialization of trusted platform module (TPM)</li> <li>Change of BIOS setting</li> <li>Install the operating system into a partition that is encrypted with BitLocker, delete the observed partition prior to reinstallation.</li> <li>ck</li> <li>OS installation media contains Service Pack 2, you do not need to apply the servic again.</li> </ul>
	BitLoc Service Par If the pack a • You c	<ul> <li>Initialization of trusted platform module (TPM)</li> <li>Change of BIOS setting</li> <li>Install the operating system into a partition that is encrypted with BitLocker, delete the cker-encrypted partition prior to reinstallation.</li> </ul>
EBOS	BitLoc Service Par If the pack a • You c	<ul> <li>Initialization of trusted platform module (TPM)</li> <li>Change of BIOS setting</li> <li>Install the operating system into a partition that is encrypted with BitLocker, delete the observed partition prior to reinstallation.</li> </ul> <b>ck</b> OS installation media contains Service Pack 2, you do not need to apply the servic again. an install the Service Pack on the server. When the Service Pack is not attached to you m, prepare it by yourself.
EBOS	BitLoc Service Par If the pack a You c syster uthentication License a	<ul> <li>Initialization of trusted platform module (TPM)</li> <li>Change of BIOS setting</li> <li>Install the operating system into a partition that is encrypted with BitLocker, delete the observed partition prior to reinstallation.</li> </ul> <b>ck</b> OS installation media contains Service Pack 2, you do not need to apply the servic again. an install the Service Pack on the server. When the Service Pack is not attached to you m, prepare it by yourself.

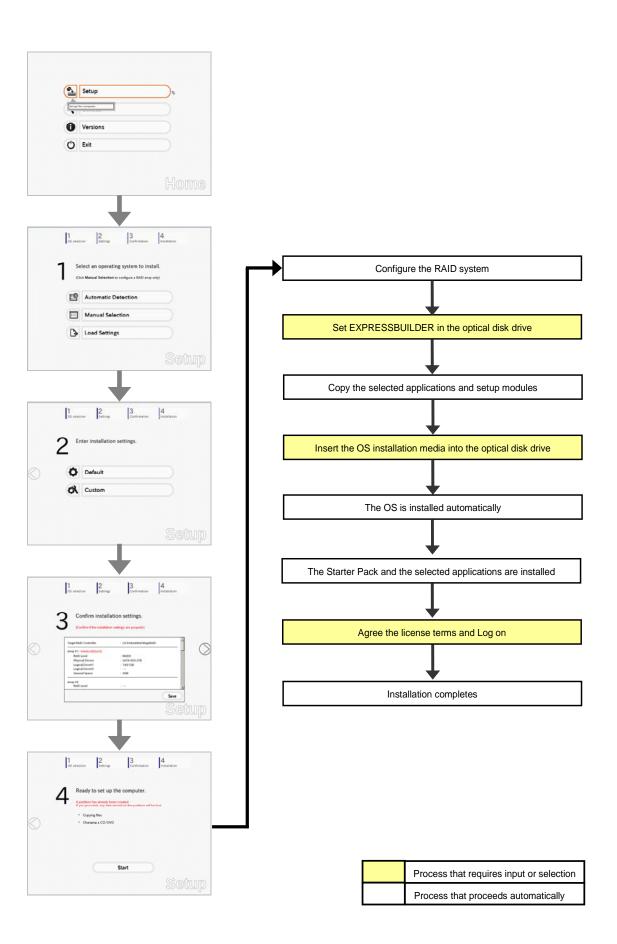
# **5.2** Setup with EXPRESSBUILDER

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	<ul> <li>Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: <ul> <li>RAID settings</li> <li>Partition Settings</li> </ul> </li> <li>Backing up user data, as needed, is recommended.</li> </ul> <li>Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup.</li>
Note	<ul> <li>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.</li> <li>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.</li> </ul>
Tips	<ul> <li>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).</li> <li>For details on creating a parameter file, refer to <i>Chapter 1 (7. Windows OS Parameter File).</i></li> </ul>

### 5.2.1 Setup flow



### 5.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

Question	
 表示する言語を選んでください。 Select the language for displaying.	
<ul> <li>日本語</li> <li>⑤ English</li> <li>⑥ Français</li> <li>○ Italiano</li> <li>○ Deutsch</li> <li>○ Español</li> </ul>	
ОК	

5. Click Setup.

	Setup	₽
Set u	o the computer.	
0	Versions	
Ċ	Exit	

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

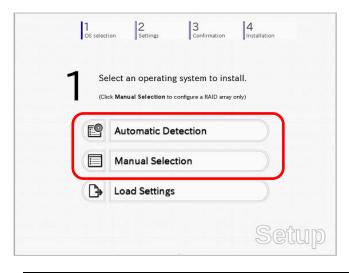
When not using parameter file	
When using a parameter file	

: 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:



To automatically detect the OS on the OS installation media:

(1) Click Automatic Detection.

1 OS se	lection Settings	3 Confirmation	4 Installation
	Select an operatin		
	ect an operating system	etection	%
	Load Setting		
			Setup

Insert the OS installation media, and then click OK.

Question	<u>n</u>				
	To check your OS	installation dis		ne computer. ssage ID : B2014 ]	
0					
					_
	0	к	Cancel		

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

	tion 2 3 Addition
1 Se	elect an operating system to install.
(Cliv	ck Manual Selection to configure a RAID array only)
۲ 🕑	Automatic Detection
	Manual Selection

### To select an OS from the menu:

(1) Click Manual Selection.

1	Select an operating system to	install.
	(Click Manual Selection to configure a RAID a	
E	Automatic Detection	
	Manual Selection	ø
Yo	u can select the target OS of installation from the menu.	

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

	Select an operating system to install.	
	Windows     Windows Server 2008 x86	-
	OVMware	
2	O RAID Configuration Only	
	×	

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

1		lect an operating system to insta	
	(Cli	ck Manual Selection to configure a RAID array on	ily)
	E	Automatic Detection	
,			
*		Manual Selection	
	•	Load Settings	

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

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

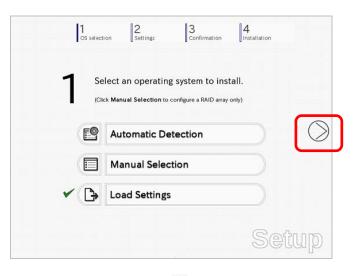
Follow the on-screen instruction to load the parameter file (\*.tre).

Places	Name Corom1	Modified
File System	😂 usbl	Unknown
♣ Add — Be	move	-
		🗶 Cancel 🛛 🗁 Open

Tips

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

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

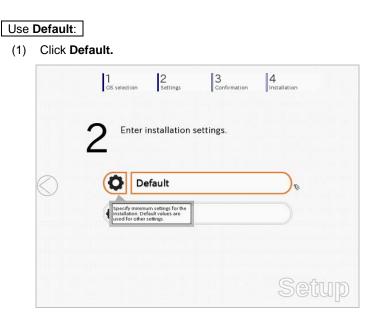


On the following screen, click  $\bigcirc$  on the right side of the screen. Click **Custom** to check and modify the setting in the wizard.

	1 OS select	ion Settings	3 Confirmation	4 Installation	
	2 "	nter installation s	settings.		
C	0	Default			$\bigcirc$
	~ 01	Custom			
				Set	.up

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

2 *	nter installation settings.	
0	Default	
Ø	Custom	



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

Basic Settings				
Operating system	Windows Ser	ver 2008 x86		
Edition	Standard(Ful	l Installation)		
Language	English -			
Typing Administrator P.	assword			
Administrator Passw	ord	:		(Required)
				(Required)
	Operating system Edition Language Typing Administrator P Administrator Passw	Operating system Windows Ser Edition : Standard(Fu	Operating system         Windows Server 2008 x86           Edition         :         Standard(Full Installation)           Language         :         Englishi▼           Typing Administrator Password	Operating system Windows Server 2008 x86 Edition : Standard(Full Installation)

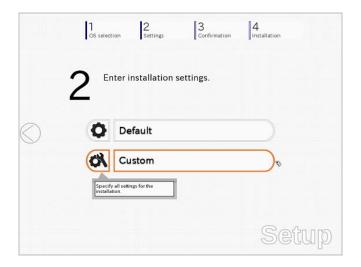
(3) Click  $\bigcirc$  on the right side of the screen.

OS selecti	2 Settings	3 Confirmation	4 Installation	
2 ▫	ter installation s	settings.		
~ o	Default			C
63	Custom			
			Set	UD

 $\rightarrow$  Go to step 10.

### Use Custom:

(1) Click Custom.



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

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

### When creating new logical drives

With the **Skip a RAID Configuration** check box cleared, click **Next**. Set up the logical drives 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	I Windows by using the sta dows standard installer can install easily both Wind RESSBUILDER.				5011. Electric de 1976 de
-8	lasic Settings				
	Operating system	: w	indows Server 2008	x86	
	O Use Windows stand	lard installer			
	EI Copy OEM driv	ers to removable i	media		
	<ul> <li>Install Windows usin</li> </ul>	g EXPRESSBUILD	ER		
	Edition	Standard(F	ull Installation)	*	
	Language	English 🔻			
	Time zone	(UTC-08:0	0) Pacific Time (US &	Canada)	[¥]
-					
					4 / 10 Page
	Back	Next		1	Cancel

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

sys	ndows will be installed int tem partition is 2TB. data currently on an exist			The maximum partition size for be deleted.	r the
C	urrent Partitions (the area sho	own with a red frame will	be deleted)		_
	☐ Free Space (27868) Partition Settings Create a new partition ○ Use all space ◎ Type a partition	n size :[	40](G8 40G8 / Recommen	) *178-1024G8 ded 4068 / Maximum 27868	>
	Back	Next		5 / 10 P	age

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

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

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

Personalize the computer. Type Computer Name within 15 charact Administrator Password requires mo from three of the following categorie	re than 6 characters, and i	
User information		
Computer name	: 🗹 Auto	
	1-1993-0123456	(Required)
User name	: Administrator	
Administrator Password	÷	(Required)
Reenter Administrator Password	8	(Required)
		6 / 10 Page

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

- Network protocols	
Standard settings	
Custom settings	
Standard adapter - Internet P	Protocol (IPv4)  Advanced
	7 / 10 Page



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

Note

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

standard network boards. After finishing setup with EXPRESSBUILDER, specify the optional network settings again. (7) Specify the domain or workgroup.Check the settings, modify them as needed, and then click Next.

Join this computer to a domain or a Choose <b>Workgroup</b> or <b>Domain</b> ,	and then enter parameters.	
<ul> <li>Join a workgroup</li> <li>Workgroup name</li> </ul>		
O Join a domain		
Domain name	:	
Account name	:	
Password Reenter password		
Reenter password		
		8 / 10 Page
		Cancel

(8) Check the settings of Windows components.

Server roles

U Web server(IIS)

indows features

WINS server

Back Next

Modify the settings as needed, and then click Next.

	hoose Windows components you want to	install.		-
-	Server roles			-
	Web server(IIS)	Print and Docu	ment services	
	DHCP server	□ File services		
	DNS server	Hyper-V		
	Windows features			
	SNMP service		Advanced	
	Simple TCP/IP services			
	WINS server			
		1	9 / 10 Page	-
	Back Next	]	9 / 10 Page Cancel	-
	Back Next	]		Full installat
	Back Next		Cancel	Full installat
	Back Next	1	Cancel	Full installat
			Cancel	Full installat

Print and Document services
File services
Hyper-V

Advanced

9 / 10 Page

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 <b>Descr</b>	ription.
List of applications	Selected applications
	NEC ESMPRO Agent
E E	Express Report Service
	Add >> Express Report Service(HTTPS)
1	<< Delete
	ExpressUpdate Agent
-	
Description	
	10 / 10 Page
Back Finish	2004
Back Finish	Cancel

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

	Lion 2 3 Settings Confirmation	4 Installation
2	nter installation settings.	
Ø	Default	
10 1	Custom	

10. Check the parameter settings.

To save the settings, click Save.

	1 2 OS selection Settings	3 Confirmation
	2 Confirm installation set	ttings.
	(Confirm if the installation settings an	e properly)
)	Skip a RAID configuration.	
	Operating system : Wind	lows Server 2008 x86
	(Install Windows using EXPRESSBUILDER)	
	Edition : Stand Language : Englis	dard(Full Installation) sh
		Save
		Quitan

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

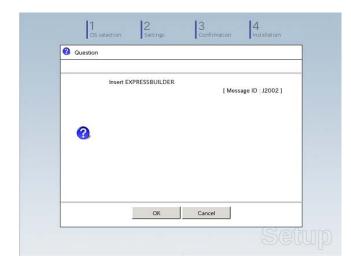
11. The setup process starts.

Click Start to continue setup.

	1 2 3 selection Settings 3 4 Installation
$\bigcirc$	Ready to set up the computer. A partition has already been created from proceed, any data stored on the partition will be lost. <ul> <li>Configuring RAID system</li> <li>Copying files</li> <li>Changing media</li> </ul>
	<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**.



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

Selection	tion		-
	Insert the OS installation d		-
	Click OK to proceed to th (30-90 minutes until com		
	Do not use the mouse an	d keyboard during the setup until the	
	prompt screen appears.		
2		[ Message ID : J2004 ]	
			_
	ОК	Cancel	

Windows Server 2008 is installed automatically.

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

1 /2 <b>4</b> 2 /2	
Installing Starter Pack.	
Please wait for a while.	
	Screen displayed
1 /2 A 2 /2	
Installing applications.	
Please wait for a while.	
	Screen displayed

Screen displayed when Starter Pack is being installed

Screen displayed when an application is being installed

15. When the software license agreement window appears, select **I accept the license terms**, and then click **Next**.

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 ire 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
Laco	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> + <Del> 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	
6	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 is co	moleted				
The secup is co	mpieceu				
The Setup with EXP	RESSBUILDER H	as been succ	essfully comp	leted.	
					OK

- 19. Follow the instructions described in *Chapter 1 (5.5 Setting Up Device Drivers)* to set up the device drivers supplied with this server as standard.
- 20. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
- 21. Apply Service Pack as needed according to Chapter 1 (5.8 Applying Service Pack).
- 22. Execute setup by following the instructions described in Chapter 1 (6. Setup for Solving Problems).

Setup with EXPRESSBUILDER is now complete.

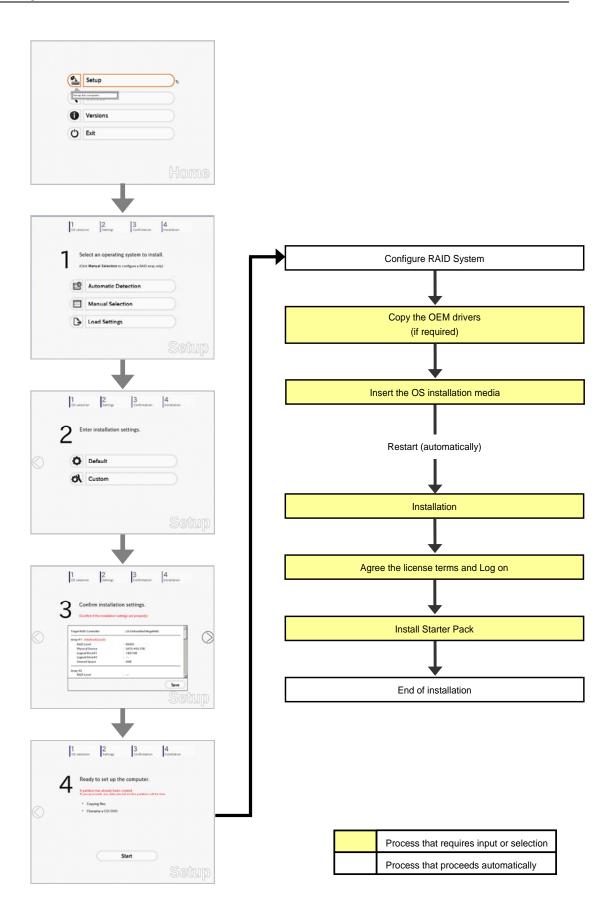
# **5.3** Setup with Windows Standard Installer

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

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

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

# 5.3.1 Setup flow



## 5.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
  - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
  - Microsoft operating system installation media (hereafter referred to as *Windows Server 2008 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.
	<ul> <li>If you are using a server with Internal Flash Memory installed, you can install the OS without using the EXPRESSBUILDER DVD.</li> </ul>
	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 and default and Tool menu (Redirection mode) Tool menu (Redirection mode)	
Press (Nab) to edit options Automatic boot in 10 seconds	

The following window appears.

	Starting EXPRESSBUILDER	
4	•	

The server starts from EXPRESSBUILDER.



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



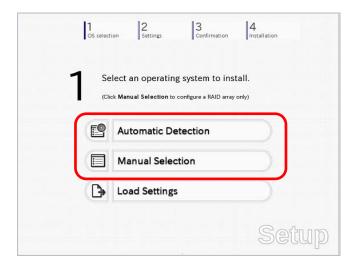
5. Click Setup.

Setup	Setup	₽
•	Versions	
٢	Exit	

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

**Note** When setting up again, an already saved parameter file can be read, so that you can skip inputting parameters in the wizard.

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



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

<b>1</b> s	elect an operatir	ng system to ins	tall.	
	ick Manual Selection t			
F	Automatic D	etection	<i>a</i>	
	an operating system latically with an installation	1		
autom disc.		stion		
( <b>]</b> >	Load Setting	s		

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

0	CS selection	2 Settings	3 Confirmation	4 Installation	
	To cł	neck your OS installati		he computer. essage ID : B2014 ]	
	0				
		ОК	Cancel	Se	

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

	elect an op				
•	Click Manual Sele			y only)	
	Automa	tic Detec	tion		
	Manual	Selection	n		
G	Load Se	ettings			

## To select an OS from the menu:

(1) Click Manual Selection.

Select an operating system to ins	
(Click Manual Selection to configure a RAID array	only)
Manual Selection	s.
You can select the target OS of the installation from the menu.	
	Setup

(2) From the Windows list, select the OS to install 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 instal	Ι.
'	(Cli	ck Manual Selection to configure a RAID array on	y)
	e	Automatic Detection	$\supset$
~		Manual Selection	
	₿	Load Settings	

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

ect an operating system to install. k Manual Selection to configure a RAID array only)
Automatic Detection
Manual Selection
Load Settings
tallaton settings.

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

Places	Name	Modified     Tuesday
S File System	🗁 usb1	Unknown
Add = Ben	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.

1		t an operating			
•	_	anual Selection to o		rray only)	ſ
E		utomatic De	tection		l
	] м	lanual Selec	tion		
< []	} Lo	oad 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.

	100,000	tion Settings	3 4 Confirmation	
	2 -	nter installation settin	igs.	
)	0	Default		
	~ 01	Custom		
			0	Setup

 $\rightarrow$  Go to step 10.

9. Click Custom.

	1 2 3 OS selection Settings Confi	rmation Installation
	2 Enter installation settings.	
$\bigcirc$	Default	
	Custom	<i>b</i>
	installation.	Colum
		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.



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

Device Information			2 <u>0</u>
RAID Controller		LSI Embedded MegaRAID	Detail
Number of Physical Devic	es :	1	
Summary of RAID			
Array #1 RAIDO (1disk) Logical Drive1 (1861GB	)		<u>*</u>
RAID Configuration			
Skip a RAID Configura	ation		

## 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.

_B₁	asic Settings	603	indour Server 200	2023	
-	Use Windows sti Copy OEM d	andard installer Irivers to removable r	nedia		
+		Sing EXPRESSBUILD			
	Edition Language Time zone	English +	ul Installation) 0) Pacific Time (US 8	Canada)	-

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

1 OS select	on Settings	3 data 3	
2 "	ter installation settin	ıgs.	
0	Default		
~ 01	Custom		
			0
		Se	etuj

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

	1 2 OS selection Settings	3 Confirmation	
-	Confirm installa	ation settings.	
	(Confirm if the installation	n 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	2	
	Unused Space	: OGB	
	Array #2		
	RAID Level	:	<u> </u>
		Save	
			2
			- A- AM

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

11. The setup process starts.

Click Sta	art to continue setup.
	1         2         3         4           Cos selection         Settings         A         Installation
	Ready to set up the computer.
	A partition has already been created. If you proceed, any data stored on the partition will be lost.
-	* Configuring RAID system
$\langle \rangle$	<ul> <li>Copying OEM drivers</li> </ul>
$\bigcirc$	* Changing a CD/DVD
	<ul> <li>Installing an OS</li> </ul>
	Start
	Setup

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

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

?	Question	
		Copy OEM drivers (Windows Server 2008). Set removable media, and then click <b>Yes</b> .
		[ Message ID : G2000 ]
	3	
		Yes No

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

Inse	rt an OS installation d	isc for installing.	L.H	
			[ Message ID : J200	01
0				

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.

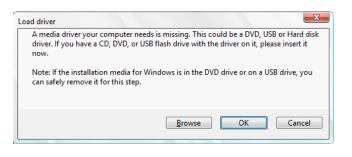
💐 Install Windows	
Windows Server 2008	
Language to install: English	
Time and currency format: English (United States)	
Keyboard or input method: US	
Enter your language and other preferences and click "Next" to continue.	
Copyright @ 2007 Microsoft Corporation. All rights reserved.	<u>N</u> ext

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.



- 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
   Removable media:\OEM\_driver\ws2008\megasr1

#### If using Internal Flash Memory

- Windows Server 2008 64-bit Edition
- Internal Flash Memory:\005\win\winnt\oemfd\ws2008x64\megasr1
   Windows Server 2008 32-bit Edition
  - Internal Flash Memory:\005\win\winnt\oemfd\ws2008\megasr1

Tips

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

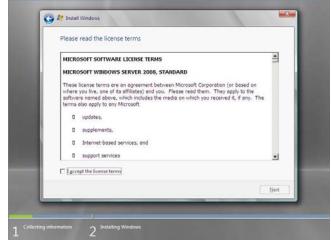
- 18. Select LSI Embedded MegaRAID, and then click Next.
- 19. When the following window appears, enter the product key and then click **Next**. Note that this window does not appear if you use Backup DVD-ROM for installation.

	Type your product key for activation
	You can find your product key on your computer or on the installation disc holder inside the Windows package. Although you are not required to anter your product key now to install, failure to enter it may refull in the loss of data, information, and programs. You may be required to purchase another edition of Windows. We strongly advise that you enter your product identification key now.
	The product key sticker looks like this:
	Product key (dashes will be added automatically):
L	[200]
Ľ.	Automatically activate Windows when Tm online
	What is activation?
	Bead our privacy statement

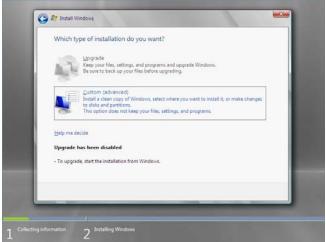
20. When the following window appears, select the Windows edition you have purchased. Select I have selected the edition of Windows that I purchased check box, and then click Next. If the product key was entered, only the corresponding editions are displayed.

Select the edition of Windows that you p	urchased	
Windows Version Windows Server 2006 Standard (Full Installa Windows Server 2008 Enterprise (Full Install Windows Server 2008 Enterprise (Full Install Windows Server 2008 Enterprise (Server Cor Windows Server 2008 Enterprise (Server Cor Windows Server 2008 Datacenter (Server Co	ation) lation) Installation) e Installation)	
To enter your product key, click the Back bu different sector of the enter your product key that you purchased. If you select the wrong	now, make sure that you select the edition of Win edition, you will need to purchase that edition, or indows later and potentially lose files and informa	dows you
		Next
fermationInstalling Windows		

- 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 \005\win\winnt\oemfd\ws2008x64\megasas2
- Windows Server 2008 32-bit Edition \005\win\winnt\oemfd\ws2008\megasas2

#### When using the N8103-168 RAID Controller:

- Windows Server 2008 64-bit Edition \005\win\winnt\oemfd\ws2008x64\megasas2
- Windows Server 2008 32-bit Edition \005\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 \005\win\winnt\oemfd\ws2008x64\megasr1
- Windows Server 2008 32-bit Edition
   \005\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 € Load Driver	Relete	Eormat	🔶 Ne <u>m</u>	Next

When the following message appears, Windows installation starts automatically.

Γ	Installing Windows
L	That's all information we need right now. Your computer
L	will restart several times during installation.
L	✓ Copying files
L	Expanding files
L	Installing features
L	Installing updates
	Completing installation
L	

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.

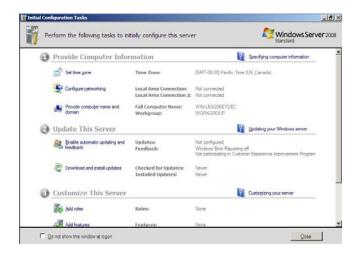
	Administrator New password Certain password meet disk
Ø	Cancel Windows Server 2008 Standard

Tips	Passwords must fulfill the following requirements in Windows Server 2008.
	<ul> <li>Contains 6 or more characters</li> </ul>
	- 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.
OK
Standard Server 2008

(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> + <Del> 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 **(2)**. Password entry is not required at this time.



(4) The following window appears, prompting you to change your password before logging on. Click **OK**.

The use's password must be changed before logging on the first time.	
OK Cancel	
Windows Server 2008 Standard	

(5) Change your password, and then click 🗐.

	edministrator Password New password Confirm password
G	Cancel Windows Server 2008 Standard

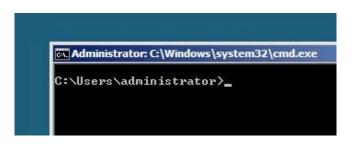
Tips

- 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	<ul> <li>Also install Starter Pack in the following cases.</li> <li>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</li> </ul>
	Pack.) <ul> <li>If the system was restored using a restore process</li> <li>If a system has been restored using the backup tool</li> </ul>
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 N		Version 7.00-000.00 (0
	Instruction Manual	
i	Versions	
P	Integrated Installation	$\square$
	Applications	
B	Exit	

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

	Applications - If NEC ESMPRO Agent If Express Report Service If Express Report Service(HTTPS) If Universe RA1D Utility If Product Info Collection Utility	pplications EXEC ESMPRO Agent Express Report Service Express Report Service(HTTPS) Universal RAID Utility Product Info Collection Utility	Starter Pack     C Applications
NEC ESMPRO Agent     Express Report Service     Express Report Service(HTTPS)     Universal RAID Utility     Product Info Collection Utility	NEC ESMPRO Agent     Express Report Service     Express Report Service(HTTPS)     Universe RA1D Utility     Product Info Collection Utility	NEC ESMPRO Agent     Express Report Service     Express Report Service(HTTPS)     Universal RAID Utility     Product Info Collection Utility	
Express Report Service Express Report Service(HTTPS) Universal RAID Utility Product Info Collection Utility	Express Report Service     Express Report Service(HTTPS)     Universal RA1D Utility     Product Info Collection Utility	Express Report Service Express Report Service(HTTPS) Universal RAID Utility Product Info Collection Utility	
Express Report Service(HTTPS)     Universal RAID Utility     Product Info Collection Utility	Express Report Service(HTTPS)     Universal RAID Utility     Product Info Collection Utility	Express Report Service(HTTPS) Universal RAID Utility Product Info Collection Utility	
Universal RAID Utility     Product Info Collection Utility	Universal RAID Utility  Product Info Collection Utility	Universal RAID Utility     Product Info Collection Utility	
F Product Info Collection Utility	F Product Info Collection Utility	F Product Info Collection Utility	
III ExpressUpdate Agent	III ExpressUpdate Agent	III ExpressUpdate Agent	
			ExpressUpdate 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:\005\win\winnt\bin
```

C:\Users\administrator>cd /d D:\005\win\winnt\bin

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

pkgsetup.vbs

D:\005\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.

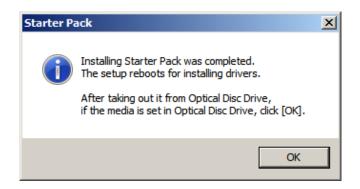
Starter Pa	ack	×
?	Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot.	
	OK Cancel	

Wait until 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.
r lease wait for a winie
>> Copying Files.
>>> Checking the system information.
Updating drivers.
Performing the last process.
i vitoiming tuo aut process.

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



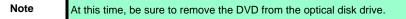
6. Click **OK** to restart the system.

Installation of Starter Pack is now complete.

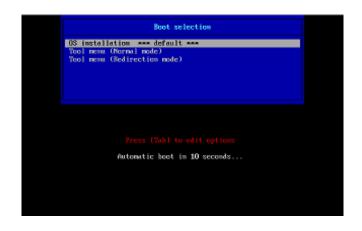
## 5.4.2 When using Internal Flash Memory

(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.

B

6. Click Starter Pack Installation.

666	RAID Configuration Data	
	File Execution	
8	Starter Pack Installation	<b>_</b>
Install Windo	Starter Pack to the installed ws. Nemory	

7. Read the contents, and then click Yes.

Question					
	Install Starter Pack into th Do you want to proceed		ndows has b	een installed.	
	of you mak to proceed		[ Message	ID : P2000 ]	
			1		
	Yes	No	1		-

8. When files are copied, click  $\ensuremath{\textbf{Close}}$  on the following screen.

	ation
	Starter Pack has been copied.
0	Click <b>Close</b> to restart the computer. To install Stater 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.

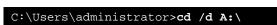
#### Full installations:

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:\
```



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

app\_pkg.bat

A:\>**app\_pkg.bat** 

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

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

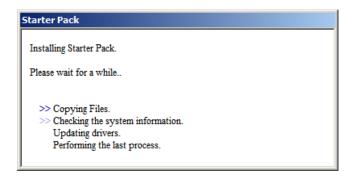
Starter Pack
Installing Starter Pack.
Please wait for a while.
Flease wait for a while.
>> Copying Files.
Checking the system information.
Updating drivers.
Performing the last process.
Performing the last process.

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

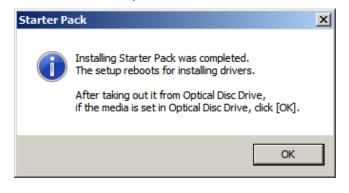
Starter P	ack	×
?	Setup is going to install Starter Pack. If you install it, click [OK], If you wish to cancel it, click [Cancel]. This process disables Scalable Networking Pack(SNP) function. If you use SNP function, enable it after the reboot.	
	OK Cancel	

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.

## **5.5** Setting Up Device Drivers

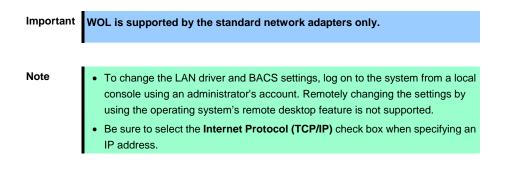
Install and set up device drivers provided for the standard configuration.

For details regarding the installation and setup of a driver that is not described here, refer to the manual supplied with the driver.

## 5.5.1 Installing the LAN drivers and BACS (teaming utility)

## (1) LAN drivers and BACS

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



### (2) Optional LAN board

This server supports the following optional LAN boards.

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 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:

```
<Windows Server 2008 64-bit Edition>
    EXPRESSBUILDER DVD:\005\win\winnt\ws2008x64\r1\lan\intel
```

#### <Windows Server 2008 32-bit Edition>

EXPRESSBUILDER DVD:\005\win\winnt\ws2008\lan\intel

#### If Starter Pack was installed from Internal Flash Memory:

<Windows Server 2008 64-bit Edition>

System Drive:\StartPKG\ws2008x64\r1\lan\intel

#### <Windows Server 2008 32-bit Edition>

System Drive:\StartPKG\ws2008\lan\intel

When the following message appears, remove the EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Installation Completed	
------------------------	--

Setup is now completed.

Note

- If the LAN driver has been installed in N8104-145, PROSet (Teaming utility) is also installed.
- If an optional LAN board has been added, perform the procedure in "5.5.2 Setting up LAN drivers" for each optional LAN board.

#### (3) Network adapter name

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

## Network adapters for the standard configuration

Broadcom NetXtreme Gigabit Ethernet #xx\*

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

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

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

Tips

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

## 5.5.2 Setting up LAN drivers

## (1) Setting link speed

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

Tips

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

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

The link speed setting is now complete.

#### (2) Using N8104-128

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

Follow the procedure below to set it.

- Double-click the Broadcom Control Suite icon on the Control Panel window. Broadcom Advanced Control Suite starts.
- Set Filter to ALL VIEW, select Broadcom BCM57711 NetXtreme II 10 GigE # xx under Explorer View the Adapter xx (BCM57711 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:\005\win\winnt\ws2008x64\r1\lan\bcom\ws2008x64\lan

<Windows Server 2008 32-bit Edition>
 EXPRESSBUILDER DVD:\005\win\winnt\ws2008\lan\bcom\ws2008x86\lan

#### If Starter Pack was installed from Internal Flash Memory:

<Windows Server 2008 64-bit Edition>

 $System \ Drive: \verb|StartPKG|ws2008x64|r1|lan|bcom|ws2008x64|lan|$ 

#### <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 file.

## When using EXPRESSBUILDER DVD:

<Windows Server 2008 64-bit Edition>
 EXPRESSBUILDER DVD:\005\win\winnt\ws2008x64\r1\lan\bcom\ws2008x64\lan
<Windows Server 2008 32-bit Edition>

EXPRESSBUILDER DVD:\005\win\winnt\ws2008\lan\bcom\ws2008x86\lan

#### If Starter Pack was installed from Internal Flash Memory:

<Windows Server 2008 64-bit Edition>

 $\label{eq:system_def} System_Drive: \StartPKG\ws2008x64\r1\lan\bcom\ws2008x64\lan\end{system}$ 

#### <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: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.

## 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	<ul> <li>Be sure to set u</li> </ul>	p LiveLink when creating	g 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:
	<ul> <li>Between standard network adapters</li> </ul>
	<ul> <li>Between LAN cards excluding N8104-128</li> </ul>
	<ul> <li>A standard network adapter and LAN card N8104-128</li> </ul>
	When the number of adapters that composes the team is up to two:
	<ul> <li>Between N8104-128 adapters.</li> </ul>
	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		
<u>File View Action Filter Context Tools Teams iSCSI Help</u>		
📗 Filter: TEAM VIEW 💽 Information 🗨 🔽 Vital Signs	✓ Driver Information	
Explorer View 🗗	Information Configurations Diagr	ostics   Statistics
🗄 000 Hosts	Property	Value
E	🖃 Vital Signs	
Teams	MAC Address	50E54986AD60
Unassigned Adapters	- Permanent MAC Address	50E54986AD60
- Fig [0007] Broadcom NetXtreme Gigabit Ethernet	- IPv4 Address	169.254.156.174
	- Offload Capabilities	LSO,CO
	MTU	1500
Manage Teams	🖃 Driver Information	1
<u>A</u> dd to a Team	- Driver Version	15.0.9
Create a <u>V</u> LAN	- Driver Date	10/3/2011
	- Driver Name	b57xp32.sys
	Driver Status	Loaded
	Vital Signs The Vital Signs section of the Information network adapters that are installed in you adapter and general network connectivity	ur system, such as the link status of the
BROADCOM		

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	
A team name has a maximum length of 39 characters. The name can use 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.

ii Broadcom Teaming Wizard	<u>? ×</u>
Creating/Modifying a Team: Team Type Select the type of team you want to create.	BROADCOM
r 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	the first CID is a last day 700
TOP Offload Engine (TOE) support is supported only on a SLB team type. If a team type connections will be offloaded.	other than SLB is selected, no TCP
Cancel Sack Next	Preview 🗊

- Note
- 802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP) is not supported.
- When **FEC/GEC Generic Trunking** is selected, the following message will appear. Select **OK**.
- "Verify that the network switch connected to the team members is configured correctly for the team type."

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

Available Adapters	TOE	LSO	CO	RSS	samab	NDIS	MTU	
008] Broadcom NetXtreme Gigabit Ethernet #2	No	Yes	Yes	No	Yes	5.1	1500	
Add								Remove
Add Team Members	TOE	LSO	co	RSS	amab	NDIS	MTU	<u>R</u> emove
<u></u>	TOE No	LSO Yes	CO Yes	RSS No	3amab Yes	NDIS 5.1	MTU 1500	Remove

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

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

<u>?</u> ×
BROADCOM.
<u>×</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.

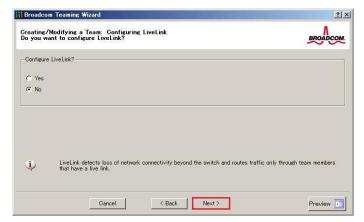
(4) Click Next.

?×
BROADCOM.
<b>F</b>  2

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	<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).
<ul> <li>Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum.</li> <li>If a link down is detected, failover occurs immediately after the link goes down. If takes the time specified for Probe interval (seconds) to recover from the link going down.</li> </ul>
<ul> <li>When using Tagged VLAN, input the VLAN ID for Probe VLAN ID.</li> </ul>

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

Team Name Team 1 Target 1: Target 2: Target 3: Target 4:	1			iveLink Confi PSetting
Target 2			Team 1	Team Name
Target 3			8010	Target 1:
			2000	Target 2:
Target 4		li i i i i i i i i i i i i i i i i i i		Target 3:
				Target 4:
Please enter either an IPv4 or IPv6 address for the probe targets IP address fie		aucha daucada 10 adduara (ji		Disease subsection of
riease enter either an 1rv4 or 1rvo address for the probe targets 1r address he	510.	probe targets in address fit	mer an 1794 or 1790 address to	riease enter en

Tips

note	

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

11. Click Next.

Probe Interval (seconds)	2	•	
Probe Maximum Retries	5	•	
Probe VLAN ID (Optional: 0-4094)	0		
Target		IP Address	×
Probe Target 1 Probe Target 2			
Probe Target 3	00000000		<b>•</b>
<ol> <li>At least one LiveLink pro</li> </ol>	Edit Target IP Addres	s	

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

	10 4 A U	70 A 11	
Target Members 2007] Broadcom NetXtreme Gigabit Ethernet	IPv4 Address	IPv6 Address	
2003 Dioadcom Merzmenie Orgaon Emeiner			
0008] Broadcom NetXtreme Gigabit Ethernet #2			
	dit Member IP Address		
<ol> <li>Every member must have a static IP a</li> </ol>			

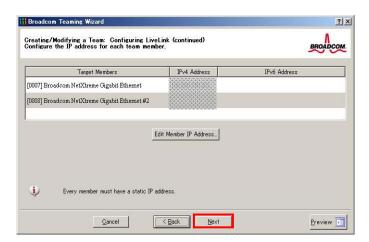
13. Enter the IP address used for LiveLink communication, and then click OK.

Setting	
Name	[0009] Broadcom BCM57810 NetXtreme II10 GigE (NDIS VBD Client) #161
IPv4 Address:	1000
IPv6 Address:	

#### 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.

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

rocess 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: TEAM VIEW   Explorer View	5
Hosts     Hosts     Teams     Def Visual Adapters     Standby Adapters     Standby Adapters     Standby Adapters     Standby Broadcom NetXtreme Gigabit Ethernet     Standby Broadcom NetXtreme Gigabit 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)

lorer View 6	Information Statistics	
dag Hosts	Property	Value
e 🔝 9669666666	<ul> <li>Team Properties</li> </ul>	
😑 🎬 Teams	Team Name	Team 1
😑 👫 Team 1	Team Type	Smart Load Balancing(TM) and Failover
BASP Virtual Adapters	- Team Offload Capabilities	LSO, CO
	- Team MTU	1500
- International ([0020] BASP Virtual Adapter)	- Driver Name	Baspxp32.sys
E Frimary Adapters	- Driver Version	6.3.31
	Driver Date	6/15/2011
- 🏭 [0007] Broadcom NetXtreme Gigabit Ethernet	- Probe Interval	2000
💷 🏭 [0008] Broadcom NetXtreme Gigabit Ethernet #2	- Probe Max Retries	5
	- Probe Vlan ID	0
	- Team Probe Target 1	00010000200
	Team Properties	
	Displays information about the team.	

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

kplorer View	🗗 Information Statistics	
Merits     Teams     Teams     Teams     Teams     Team 1     Team 1	Property           Team Name           Team Name           Team Mode           Driver Version           Driver Version           Probe Interval           Probe Mar: Perries           Probe Mar: Perries           Probe Var ID           Team Properties           Displays information about the team.	Vake           Team 1           SLB (Attor-Fallback Disable)           Primary           LSO, CO           1500           Bascop22sys           6333           6/15/2011           2000           5           0

## - FEC/GEC Generic Trunking

xplorer View	Information	
Hosts	Property     Team Properties     Team Name     Team Name     Team Type     Team Offload Capabilities     Team MTU     Oriver Name     Oriver Varison     Driver Varison     Driver Date	Value           Team 1           FEC/GEC           LSO, CO, RESS           1550           Baspays           15.3           12/19/2011
	Team Properties Displays information about the team.	

Team setup is now complete.

## (4) Procedure for deleting team

Note

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

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

plorer View 🗗	Information Statistics	
Prover Boots Prover Teams Prover Teams Prover Prover Prove P	Property	Value Team 1 Smart Load Balancing(TM) and Failover LSO, CO 1500 Baspup32.sys
VI Add VLAN     HTT B0071 Broadcom N Utreme Gigabit Ethernet     10005] Broadcom NetXtreme Gigabit Ethernet #2	Oriver Version     Oriver Date     Probe Interval     Probe Max Retiries     Probe Vian ID     Team Probe Target 1	6331 6/15/2011 2000 5 5 0
	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 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.
  - 4. Double-click addlvlanstats.vbs in the following folder.

## When using EXPRESSBUILDER DVD:

Tips

```
<Windows Server 2008 64-bit Edition>
    EXPRESSBUILDER DVD:\005\win\winnt\ws2008x64\r1\lan\bcom\ws2008x64\lan
```

<Windows Server 2008 32-bit Edition>
 EXPRESSBUILDER DVD:\005\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, Reboot the system	
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.
- Click TEAM: "Team name" from the Device Manager, and then Network adapters to modify the team.
   On the Settingentation aligh the Medify Team button.

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 <b>Settings</b> tab. If any error is displayed, read the message and change the

- 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.

setting of the switching hub.

- 3. Click the **Settings** tab.
- 4. Click the 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.

### 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*:\005\win\winnt\ws2008x64\video Windows Server 2008 32-bit Edition *EXPRESSBUILDER DVD*:\005\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.	
<u>O</u> pen:	slui	
	🕐 This task will be created with administrative privileges.	
	OK Cancel <u>B</u> rowse	

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

🎋 Windows Activation	×
🕞 🕅 Windows Activation	
Activation was successful	
Activation helps verify that your copy of Windows is genuine. With a genuine copy of Windows Server®, you are eligible to receive all available updates and product support from Microsoft. Learn more online about the benefits of genuine Windows	ask for . genuine . Microsoft* software
	Close

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

When the following window appears, click Change product key.

Nindows Activation	×
💮 🕅 Windows Activation	
The Windows Server® Standard product key you typed is invalid for activation	
Buy a new product key online	
→ Iype a different product key	
→ Contact Microsoft to help resolve this problem	
	ancel

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

🌂 Wii	ndows Activation		×
$\bigcirc$	💫 Windows Activati	on	
	Change your product	key for activation	
		ows Server® Standard product key requires you to activate Windows. You ws to continue using all Windows features.	
	You can find your pr the Windows packag	oduct key sticker on your computer or on the installation disc holder inside je.	
	Example Sticker:		
	<u>P</u> roduct Key:	1	
		Next Cancel	

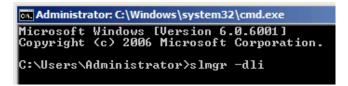
4. Follow the instructions in the following message to start the license authentication process.

Windows Activation	2
🔪 🕅 Windows Activation	
Activate Windows now	
You must activate Windows within 60 days to continue 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	
	ancel

Windows activation is now complete.

#### (2) Server Core installations

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



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

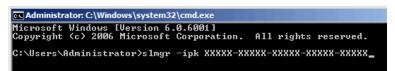
need to complete this procedure. Click **OK** to finish.

Windows Script Host	×
Name: Windows Server(R), ServerStandard edition Description: Windows Operating System - Windows Server(R), OEM_SLP channel Partial Product Key:	
OK	)

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

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

slmgr -ipk PID



3. Obtain an installation ID for Windows activation.

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



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

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

slmgr -atp CID

Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001] Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\Administrator>slmgr -atp xxxxx-xxxxx-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	
<b>1</b>	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.

	t applications if your system h ion if you want to reinstall it.		arter Pack.	
C Starter Pack				
Applications				
R NEC ESM	PRO Agent			
	teport Service			
P Express R	eport Service(HTTPS)			
Iniversal	RAID Utility			
Product In	nfo Collection Utility			
F ExpressU	pdate Agent			
	Install	Cancel		
	2			

• If Starter Pack is already installed, the <b>Applications</b> 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.

## **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.

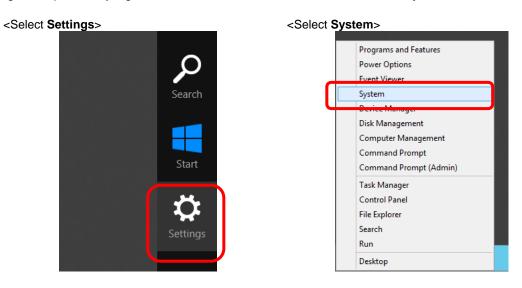
Important
Memory dumps must be collected by a serviceman. You only specify the settings for the memory dump.
When you restart the system to save the memory dump, a message informing you that the system is short of virtual memory might appear. Ignore this message and proceed with the restart. If you restart the system again, the memory dump might not be saved normally.

## 6.1.1 For Windows Server 2012

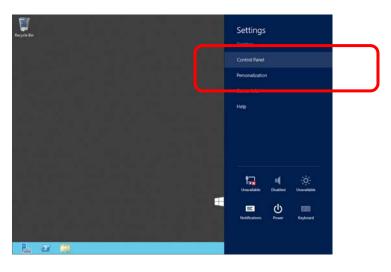
Follow the procedure below to specify the memory dump settings.

1. On the Charms bar, click Settings.

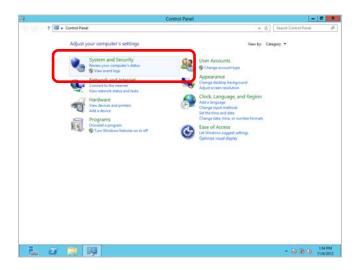
To go to step 5 directly, right-click the left bottom of the screen, and then click System.



2. In Settings, click Control Panel.



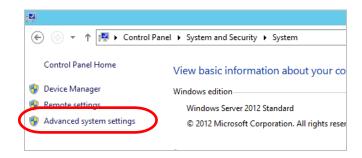
3. In Control Panel, click System and Security.



4. In System and Security, click System.

8	System and Security		-	. Ø X
🕑 🕕 - 🕆 💽 • Control	Panel + System and Security +	~ C	Search Control Panal	p
Control Panel Home • System and Security Network and Internet Hardwere Programs User Accounts Appearance Clock, Language, and Region	Action Center     Non-expansion Status and resulter insues   @ Change User Account Coverd a     Touristerious common computer problems     Mondense: Execute     Onch Tread data     Account Center     System     System     System control of AbA and processor speed   @ Abar remote access   Launch nome     Set in care of the computer   @ Decis Marage		٦	
Clock, Language, and Region Ease of Access	Turn automatic updating on or off Check for updates Install optional updates			
	Power Options     Power Options     Require a password when the computer wakes     Ohange what the power buttons do     Ohange what the computer silves		-1	
	Administrative Tools     Despend and generary a driver.   © Crease and format had doll pastions.       Schedurtasia   © Generar a system health report	9 View event logs		
L 2 🗎	99		- 18 (8 %	1.55 PM

5. In System, click Advanced system setting. The System Properties dialog box appears.



6. In Startup and Recovery, click Settings....

System Properties
Computer Name Hardware Advanced Remote
You must be logged on as an Administrator to make most of these changes. Performance
Visual effects, processor scheduling, memory usage, and virtual memory
<u>S</u> ettings
User Profiles
Desktop settings related to your sign-in
S <u>e</u> ttings
Startup and Recovery
System startup, system failure, and debugging information
Settings
Enviro <u>n</u> ment Variables
OK Cancel Apply

7. Type a file name to save the debug information, and then click OK.

Startup and Recovery X
System startup
Default operating system:
Windows Server 2012 V
☑ Time to display list of operating systems: 30 🔹 seconds
Time to display recovery options when needed: 30 🔷 seconds
System failure
✓ Write an event to the system log
✓ Automatically restart
Write debugging information
Kernel memory dump 🗸
Dump file:
D: MEMORY.DMP
✓ Overwrite any existing file
OK Cancel

Fig. For example: <Save information in drive D: with the file name "MEMORY.DMP">

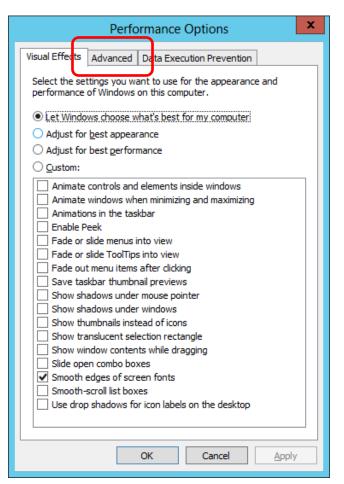
Note the following when specifying a dump file:

- 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....

Performance Options ×
Visual Effects Advanced Data Execution Prevention
Processor scheduling Choose how to allocate processor resources.
Adjust for best performance of:
O Programs
- Virtual memory
A paging file is an area on the hard disk that Windows uses as if it were RAM.
Total paging file size for all drives: 4096 MB
OK Cancel Apply

11. Clear the Automatically manage paging file size for all drivers check box, and then click Custom size.

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

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 🛛 🗙				
Automatically manage paging file size for all drives Paging file size for each drive Drive [Volume Label] Paging File Size (MB) C: System managed				
Selected drive: C:				
Space available: 38852 MB <u>Custom size</u> : <u>I</u> nitial size (MB): 3559 Ma <u>x</u> imum 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:

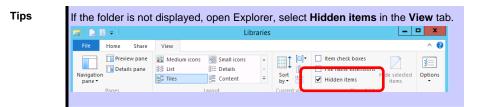
#### 6.2.1 For Windows Server 2012

- 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.

JE.	2	Task Manager	-		x
		There are no running apps			
(	• More <u>d</u> etails	)		End ta	sk

- 3. Click the Processes tab.
- 4. Right-click the name of the process that you want to get dump information for, and then click **Create Dump File**.
- 5. A dump file for the process is created in the following folder:

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



Once the user-mode process dump file has been created, get the file from the folder shown in step 5.

#### 6.2.2 For Windows Server 2008 R2 and Windows Server 2008

- 1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.
- 2. Click the **Processes** tab.
- 3. Right-click the name of the process that you want to get dump information for, and then click **Create Dump File**.
- A dump file for the process is created in the following folder: C:\Users\user name\AppData\Local\Temp

Tips

lf	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	⊻ Version 7.10-001.01 (001)
	Instruction Manual	
0	Versions	
2	Integrated Installation	
	Applications	
M	Exit	

4. Click Create a parameter file for Windows OS.

EXPRESSBUILDER			×
Autorun N	henu		Version 7.40-001.01 (001)
	Instruction M	lanual	
	Versions		
Ŧ	Integrated In	stallation	
	Applications	Create a parameter file for Windo	ws OS
		ESMPRO Product Info Collection Utility BMC Configuration	
		Universal RAID Utility	
	Exit		
	Exit	Universal RAID Utility	

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		12
	1 OS selection Settings	3 Confirmation
1	Select an operating syst (Click Manual Selection to configu	
	Manual Selection	
	Choose on operating system manually.	
		Setup

From the **Windows** list, select **OS**, and then click **OK**.

	-Of salarman.			
Question	1			
	Select an operatin	g system to install.		
	Windows	Windows Sen	ver 2012 🔹	
	C RAID Configu	ration Only		
0				
	OK	Cano	Ы	

Click  $\bigcirc$  on the right side of the screen.  $\rightarrow$  Go to step 8.

1	Select an operating system to install. (Click Manual Selection to configure a RAID array only)	
×(	Manual Selection	(
([	Load Settings	Ċ

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

Create a parameter file for Windows 05	×
1 2 Selection Settings Confirmation	
Select an operating system to install. (Click Manual Selection to configure a RAID array only)	
Manual Selection	
Load Settings	)
Load installation settings.	
	Setup

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

Look in: 🚺 Docume	ents 🔻 🗲 🖻 🎬 🖽 -
Name *	↓ Date modified ↓ Type
	No items match your search.
(	
Ile name: Tre	Open

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

Select an operating system to install. (Click Manual Selection to configure a RAID array only) Manual Selection Carlos Load Settings		ļ	OS selection	2 Settings	3 Confirmation		
Manual Selection	1						
	1			-	ire a RAID array o	uly)	
	~						$\bigcirc$
			Loud St	errings.			

 $\rightarrow$  Go to step 9.

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

		1 OS selection	2 Settings	3 Confirmation	
	2 *	iter install	ation setting	gs.	
C	0	Default			
	(A)	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 Setting					
Operating	system :	Windows Se	rver 2012		
Edition		Standard(G	UI server)		
Language		English 🔻			
Typing A	dministrator Passwo	rd	3. (2):		
Admini	strator Password				(Required)
Reente	r Administrator Pass	word			(Required)
-					
					557

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

ameter file for Windows (	к				×
	1 OS selection	2 Settings	3 Confirmation		
Fr Fr	ter install	ation setting	15.		
2					
~ Q	Default			$\supset$	$\bigcirc$
Ø	Custom	ı			
				Set	สายก
	ا 2 <sup>۳</sup>	2 Enter install ✓ ♥ Default	2 Settings Enter installation setting	1 of selection 2 Settings 3 Confirmation 2 Enter installation settings. ✓ ◎ Default	1 confirmation 2 Enter installation settings. ✓ ♥ ♥ Default € Custom

(4) Check the settings, and then click Save.Save the file according to the on-screen instructions.

Confirm installation settings. (Confirm if the installation settings are properly) Target RAID Controller : LSI Embedded MegaRAID Array #1 : initialized(Quick) RAID Level : RAID0 Physical Device : SATA #00 2TB Logical Drive#1 : BIBG B Logical Drive#1 : BIBG B Logical Drive#2 : Unused Space : 0.06B Array #2 RAID Level :	1 OS selection	2 Settings 3 Confirmation
(Confirm if the installation settings are properly)           Target RAID Controller         : LSI Embedded MegaRAID           Array #1 : Initialized(Cuick)         RAID Level           RAID Level         : RAIDO           Physical Device         : SATA #00 2TB           Logical Drive#1         : 1861GB           Logical Drive#2         :	Confirm insta	llation settings.
Array #1 ::initialized(Quick) RAID Level : RAID0 Physical Device : SATA #00.2TB Logical Drive#1 : 1861GB Logical Drive#2 : Unused Space : 0.0GB Array #2	(Confirm if the installa	tion settings are properly)
RADD Level         : RADD           Physical Device         : \$47.4 #00.2718           Legical Drive#1         : 1861GB           Logical Drive#2         :           Umused Space         : 0GB	Target RAID Controller	: LSI Embedded MegaRAID
RADD Level         : RADD           Physical Device         : \$47.4 #00.2718           Legical Drive#1         : 1861GB           Logical Drive#2         :           Umused Space         : 0GB	Array #1 : Initialized(Quick)	
Logical Drive#1 : 1831GB Logical Drive#2 : Umused Space : 0GB 		RAIDO
Logical Drive#2 : Unused Space : 0GB 	Physical Device	: SATA #00 2TB
Unused Space : 0GB 	Logical Drive#1	: 1861GB
Array #2	Logical Drive#2	12.000
	Unused Space	: OGB
RAID Level	Array #2	
	RAID Level	
Sav		

 $\rightarrow$  Go to step 10.

#### Use Custom:

(1) Click Custom.

	1 OS selection 2 Settings 3 Confirmation	
	2 Enter installation settings.	
2	Default	
~	Custom	)
	Specify oil settings for the installation.	

(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.

-	17	10		10	
?	Wizard				
	Install an operating system to the drive if the RAID controller is not correct, che				itroller.
	-Device Information-				
	RAID Controller	:			
	Number of Physical Devices	:	8		
	-Summary of RAID				11_m
	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.

	E	14	10	13	
3 wi	zard				
Winde	ows will be inst	of the system par alled into the first artition is 2TB.	tition for Wind at hard disk dr	ows. ve or logical driv	ve. The maximum partition
P	artition Setting	-			
Ť	Create a new	partition			
	O Use all s	pace			
	. Туре а р	artition size	:	40 (GB)	*1TB=1024GB
		(Mini	mum:40GB / F	ecommended:40Gl	B / Maximum:2047GB)
1					5 / 10 Page
	Back	Next			Cancel

# Important Backing up user data, as needed, is recommended. Partition size Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (Before Starting Setup)*.) The 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			
Personalize the computer. Type Computer Name within 15 characte Administrator Password requires more from three of the following categories	t t	han 6 characters, and mus	
User information			
Computer name	ŝ	Auto	
		6-113-630484556	(Required)
User name	÷.	Administrator	
Administrator Password			(Required)
Reenter Administrator Password	d :		(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.

Wizard		
Choose a network protocol. If you want to type an IP addre	ess, choose Custom Settin	ngs, click Advanced.
Network protocols		
Standard settings		
C Custom settings		
Standard adapter - In	itemet Protocol (IPv4) 💽	Advanced
		7 / 10 Pag
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	:	
		8 / 10 Page

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

Wizard			
Choose Windows compon	ents you want to	install.	
Server roles			
Web server(IIS	5)	Print and Docume	nt services
DHCP server		File services	
DNS server		Hyper-V	
Windows features			
SNMP service			Arlyanned
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					
	tions you want to i ut each application		ŝ.		
Lis	t of applications		Selected applications		
-			NEC ESMPRO Agent		
		Add >	Express Report Service Express Report Service(HTTPS)		
		No. of Concession, Name	Universal RAID Utility		
		<< Dek	Contemporary Co		
			ExpressUpdate Agent		
Description	n				
			10 / 10 Page		
Bac	k Finis		Cancel		

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

	inieter file for			2 Settings	3 Confirmation	×
	2	En	ter install	lation settin	gs.	
С	-	0	Default	:		
		8	Custor			

Check the settings, and then click Save.
 Save the file according to the on-screen instructions.

1 OS selection	2 3 Confirmation
<ul> <li>Confirm installa</li> </ul>	tion settings.
2	ion settings are specified)
Target RAID Controller	: LSI MegaRAID SAS 9270CV-8I
Array #1 : Initialized(Quick)	
RAID Level	: RAID1
Physical Drive	: Slot #00
	Slot #01
Logical Drive#1	: 2047GB
Logical Drive#2	1
Unused Space	: 0GB
Array #2 : Initialized(Quick)	-
Array #2 : Initialized(Quick)	Save
Array #2 : Initialized(Quick)	setu Setu

10. Click OK.

	11		2 Sattings	3 Confilmation	
0	Information				
	Sa	ving the file is	complete.	[ Message ID : D1000 ]	
0	0				
			OK		

11. When the following message appears, click **Yes** to complete parameter file creation.

		1 os selection	2 Settings	3 Confirmation	
[	Question				
		Do you want to OS?	stop creating a p	arameter file for Wi	
)	3				
			Yes	No	
L	-				Setu

Parameter file creation is now complete.



# NEC Express5800 Series Express5800/T120e

# **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.