

Installation Guide (Windows)

NEC Express Server Express5800 Series

Express5800/R310e-E4 Express5800/R320e-E4 Express5800/R320e-M4 Express5800/R310f-E4 Express5800/R320f-E4 Express5800/R320f-M4 EXP320R, EXP320S

Chapter 1 Installing Operating System

Chapter 2 Installing Bundled Software

30.103.01-102.03 May 2018 © NEC Corporation 2018

Manuals

Manuals for this product are provided as booklets (\square) and as electronic manuals (\blacksquare) in the EXPRESSBUILDER DVD (O).

O FX	(PRESSBUILDER				
	Safety Precautions and Regulatory Notices				
		Describes points of caution to ensure the safe use of this server. Read these cautions before using this server.			
PDF	User's Guide				
	Chapter 1: General Description	Overviews, names, and functions of the server components			
	Chapter 2: Preparations	Installation of additional options, connection of peripheral devices, and suitable location for this server			
	Chapter 3: Setup	System BIOS configurations and summary of EXPRESSBUILDER			
	Chapter 4: Appendix	Specifications			
	Installation Guide				
	Chapter 1: Installing Operating System	Installation of OS and drivers, and precautions for installation			
	Chapter 2: Installing Bundled Software	Installation of NEC ESMPRO, BMC Configuration, and other bundled software			
	Maintenance Guide				
	Chapter 1: Maintenance	Server maintenance, error messages, and troubleshooting			
	Chapter 2 Configuring and Upgrading the System	Changing hardware configuration, installing additional devices and setting up management tools			
	Chapter 3: Useful Features	The detail of system BIOS settings, SAS Configuration Utility, and EXPRESSBUILDER			
PDF	Other manuals				
	The detail of NEC ESMPRO, BM	C Configuration, and other features.			

Contents

Manuals	2
Contents	3
Conventions Used in This Document	~
Notations used in the text	
Optical disk drive	
Hard disk drive	
Removable media	
Abbreviations of Operating Systems	
POST	
BMC	7
Trademarks	8
	-
Warnings and Additions to This Document	9
Latest editions	9
Chapter 1 Installing Operating System	10
* Defere Starting Cature	
1. Before Starting Setup	
1.1 Starting EXPRESSBUILDER	
1.2 Supported Windows OS	
1.3 Service Pack Support	
1.4 Mass Storage Controllers Supported by EXPRESSBUILDER	12
2. Setting Up the Operating System	13
3. Setting Up Windows Server 2016	14
3.1 Before Starting Setup	
3.1.1 Precautions	
3.1.2 Preparation	
3.1.3 Disabling OS Boot Monitoring Feature	
3.2 Setup with EXPRESSBUILDER.	
3.2.1 Setup flow	
3.2.2 Requirements for Setup	
3.2.3 Before setting up	
3.2.4 Setup procedure	
3.3 Setup with Windows Standard Installer	
3.3.1 Setup flow	
3.3.2 Requirements for Setup	
3.3.3 Before setting up	
3.3.4 Setup procedure	
3.4 Installing Starter Pack	
3.5 Installing ft Server Control Software	
3.6 Installing Applications	
3.7 Setup Various Software	
3.7.1 Applying ft Server Control Software Update Module	
3.7.2 Applying Security Patches and QFE	64
3.8 Duplex LAN Configuration	65
3.9 Configuring Duplexed Disks	73
3.10 Creating Volume	
3.11 Installing Bundled Software for the Server	
3.12 Enabling OS Boot Monitoring Feature	
3.13 License Authentication.	
3.14 Confirming the ft Server Control Software Version	
3.15 Setting TCP/IP Timeout	
	09

3.16 Setting up status notification function of ft server	
3.16.1 Event log registration setting while SSD needs to be replaced	
3.16.2 Event log registration setting while module continues simplex status	91
3.17 Checklist Display Function at Installation	92
3.18 Caution when changing Power Options	95
4. Setting Up Windows Server 2012 R2	
4.1 Before Starting Setup	
4,1,1 Precautions	
4,1.2 Preparation	
4.1.3 Disabling OS Boot Monitoring Feature	
4.2 Setup with EXPRESSBUILDER.	
4.2.1 Setup flow	
4.2.2 Requirements for Setup	
·	
4.2.3 Before setting up	
4.2.4 Setup procedure	
4.3 Setup with Windows Standard Installer	
4.3.1 Setup flow	
4.3.2 Requirements for Setup	
4.3.3 Before setting up	
4.3.4 Setup procedure	
4.4 Installing Starter Pack	
4.5 Installing ft Server Control Software	
4.6 Installing Applications	
4.7 Setup Various Software	150
4.7.1 Applying ft Server Control Software Update Module	
4.7.2 Applying Security Patches and QFE	150
4.8 Duplex LAN Configuration	153
4.9 Configuring Duplexed Disks	
4.10 Creating Volume	
4.11 Installing Bundled Software for the Server	
4.12 Enabling OS Boot Monitoring Feature	
4.13 License Authentication.	
4.14 Confirming the ft Server Control Software Version	178
4.15 Setting TCP/IP Timeout	179
4.16 Setting up status notification function of ft server	
4.16.1 Event log registration setting while SSD needs to be replaced	
4.16.2 Event log registration setting while module continues simplex status	
4.17 Checklist Display Function at Installation	
5. Setting Up Windows Server 2008 R2	185
<i>5.1</i> Before Starting Setup.	
5.1.1 Precautions	
5.1.3 Disabling OS Boot Monitoring Feature	
5.2 Setup with EXPRESSBUILDER.	
5.2.1 Setup flow	
5.2.2 Requirements for Setup	
5.2.3 Before setting up	
5.2.4 Setup procedure	
5.3 Setup with Windows Standard Installer	
5.3.1 Setup flow	
5.3.2 Requirements for Setup	
5.3.3 Before setting up	
5.3.4 Setup procedure	
5.4 Installing Starter Pack	
5.5 Installing ft Server Control Software	
5.6 Installing Applications	236
5.7 Applying Service Pack	237
5.8 Setup Various Software	
5.8.1 Applying ft Server Control Software Update Module	
5.8.2 Applying Security Patches and QFE	
5.9 Duplex LAN Configuration	
5.10 Configuring Duplexed Disks	
5.11 Creating Volume	

5.12 Installing Bundled Software for the Server	
5.13 Enabling OS Boot Monitoring Feature	
5.14 License Authentication	
5.15 Confirming the ft Server Control Software Version	
5.16 Setting TCP/IP Timeout	
5.17 Checklist Display Function at Installation	264
6. Setup for Solving Problems	
6.1 Memory Dump (Debug Information)	
6.1.1 Windows Server 2016	
6.1.2 Windows Server 2012 R2	272
6.1.3 Windows Server 2008 R2	
6.2 The installed memory size which exceeds 32GB	
6.3 How to Create a User-mode Process Dump File	
6.3.1 Windows Server 2016	
6.3.2 Windows Server 2012 R2	
6.3.3 Windows Server 2008 R2	
6.4 DedicatedDumpFile Configuration	
6.4.1 How to Decide Whether to Cancel or Change DedicatedDumpFile Settings	
6.4.2 Cancelling DedicatedDumpFile Configuration	
6.4.3 Changing DedicatedDumpFile Configuration (Not Cancel)	
7. Windows OS Parameter File	
7.1 Creating Windows OS Parameter File	
, , , , , , , , , , , , , , , , , , ,	-
8. Backing Up System Information	
9. Precautions for Using Hyper-V	
9.1 System Down Time Caused by Duplexing CPU Module	
, , , , , , , , , , , , , , , , , , , ,	
Chapter 2 Installing Bundled Software	
Bundled Software for the Server	
I.I NEC ESMPRO Agent (for Windows)	
1.2 NEC ESMPRO Agent Extension	
<i>1.3</i> RDR	
I.4 BMC Configuration.	
1.5 NEC ExpressUpdate Agent	
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. Bundled Software for "PC for Management"	306
2.1 NEC ESMPRO Manager	
Glossary	
Revision Record	200

5

Conventions Used in This Document

Notations used in the text

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

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

Optical disk drive

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

• DVD Super MULTI drive

Hard disk drive

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

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

Removable media

Unless otherwise stated, removable media described in this document refer to both of the following.

- USB flash drive
- Flash FDD

Abbreviations of Operating Systems

Windows Operating Systems are referred to as follows.

Operating Systems which is being supported is different depending on product model. See Chapter 1 (1.2 Supported Windows) in Installation Guide (Windows) for detailed information.

Notations in this document	Official names of OS		
Windows Server 2016	Windows Server 2016 Standard		
	Windows Server 2016 Datacenter		
Windows Convert 2012 D2	Windows Server 2012 R2 Standard		
Windows Server 2012 R2	Windows Server 2012 R2 Datacenter		
	Windows Server 2008 R2 Standard		
Windows Server 2008 R2	Windows Server 2008 R2 Enterprise		

POST

POST described in this document refers to the following.

Power On Self-Test

BMC

BMC described in this document refers to the following.

• Baseboard Management Controller

Trademarks

EXPRESSSCOPE is a registered trademark of NEC Corporation

Microsoft, Windows, and Windows Server are registered trademarks or trademarks of Microsoft Corporation in the United States and other countries.

Intel, and Xeon are registered trademarks of Intel Corporation of the United States.

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

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 use.

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/R310e-E4, R320e-E4, R320e-M4, R310f-E4, R320f-E4, R320f-M4

Installing Operating System

This chapter describes how to install an operating system.

1. Before Starting Setup

Describes the Service Packs and mass storage controllers that EXPRESSBUILDER supports.

2. Setting Up the Operating System

Describes the flow of setting up the operating system.

3. Setting Up Windows Server 2016

Describes how to set up Windows Server 2016.

4. Setting Up Windows Server 2012 R2

Describes how to set up Windows Server 2012 R2.

5. Setting Up Windows Server 2008 R2

Describes how to set up Windows Server 2008 R2.

6. Setup for Solving Problems

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

7. Windows OS Parameter File

Describes how to set up the operating system by using the parameter file.

8. Backing Up System Information

Describes how to inherit system information when the device is replaced.

9. Precautions for Using Hyper-V

This section describes precautions for using Hyper-V on Express5800/ft series.

1. Before Starting Setup

This section describes a supported Windows, Service Pack, and other options for installation.

I.I Starting EXPRESSBUILDER

Use the attached EXPRESSBUILDER to re-install the OS.

To start EXPRESSBUILDER, insert the DVD into the server and power on the server, or press <Ctrl> + <Alt> + <Delete> keys to restart the server.

For details, see Chapter 3 (5. Details of EXPRESSBUILDER) in the Maintenance Guide.

1.2 Supported Windows OS

EXPRESSBUILDER supports the following editions of Windows operating systems:



··· Setup with EXPRESSBUILDER

··· Setup with Windows Standard Installer

Express5800/R310e-E4, R320e-E4, R320e-M4 model

Windows OS		Boot mode		Setup	
		UEFI	Legacy	EB	OS
Windows Server 2012 R2 *	Standard	\checkmark	N/A	\checkmark	\checkmark
Windows Server 2012 R2	Datacenter	\checkmark	N/A	\checkmark	\checkmark
Windows server 2008 R2 *	Standard	N/A	N/A	N/A	N/A
Windows server 2008 R2	Enterprise	N/A	~	\checkmark	\checkmark

✓ : Supported

*: Supported on the server with a GUI or full installation only.

Express5800/R310f-E4, R320f-E4, R320f-M4 model

Windows OS		Boot mode		Setup	
		UEFI	Legacy	EB	OS
Windows Server 2016 *1, *2	Standard	~	N/A	\checkmark	✓
Windows Server 2016	Datacenter	~	N/A	\checkmark	✓
Windows Conten 2040 D0 *3	Standard	~	N/A	\checkmark	✓
Windows Server 2012 R2 *3	Datacenter	\checkmark	N/A	\checkmark	\checkmark

✓ : Supported

*1: Supported on the Desktop Experience only.

- *2: "Nano Server" is not supported on Express5800 series servers.
- *3: Supported on the server with a GUI only.

1.3 Service Pack Support

The following combination of operating system installation discs and Service Packs are supported by EXPRESSBUILDER.

OS installation disc	No Service Pack	Applying Service Pack 1
Windows Server 2016	\checkmark	N/A
Windows Server 2012 R2	\checkmark	N/A
Windows Server 2008 R2 with Service Pack 1	✓ (*)	N/A
Windows Server 2008 R2	N/A	\checkmark

✓ : Supported

* Service Pack included is also installed when the Windows is installed. Service Pack is definitely applied after the Windows is installed.

1.4 Mass Storage Controllers Supported by EXPRESSBUILDER

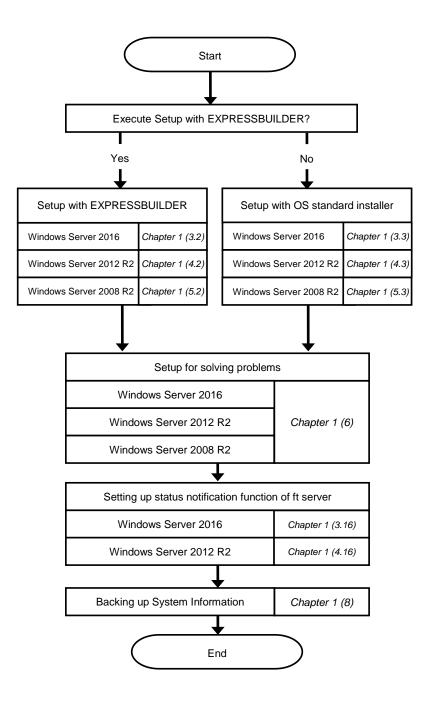
The table below lists the mass storage controllers supported by EXPRESSBUILDER.

	Windows Server 2016	Windows Server 2012 R2	Windows Server 2008 R2
Controller that can be install	ed by using EXPRESSBUII	_DER	
None	N/A	N/A	N/A
Other options			
N8803-040/040F Fibre Channel 1ch board kit	N/A	✓ (R310e-E4/R320e-E4/ R320e-M4 model only)	\checkmark
N8803-040AF Fibre Channel 1ch board kit	\checkmark	√ (R310f-E4/R320f-E4/ R320f-M4 model only)	N/A
N8803-041 SAS board	\checkmark	√	√

✓: Supported

$oldsymbol{2}$. Setting Up the Operating System

See the figure below to set up your OS installation.



3. Setting Up Windows Server 2016

Set up Windows Server 2016.

3.1 Before Starting Setup

3.1.1 Precautions

0

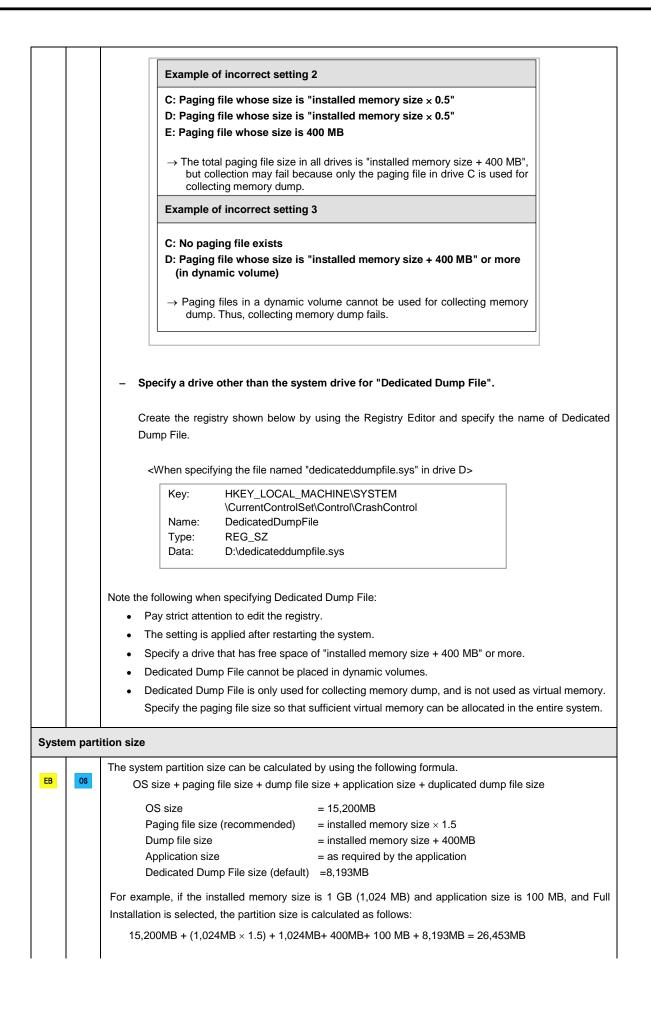
Read through the cautions explained here before starting setup.

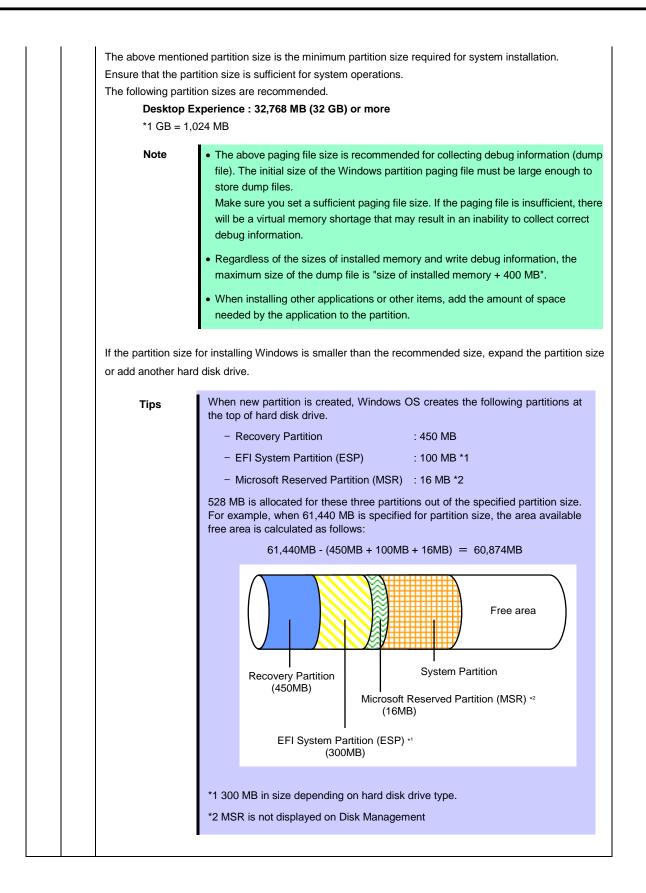
EB	: Setup with EXPRESSBUILDER

S	: Setup with Windows standard installer
---	---

BIOS	6 settir	ngs		
	8	Change Boot Moo Boot \rightarrow Boot M	de to UEFI Mode. See Chapter 3 (1. System BIOS) in Maintenance Guide for detail ode \rightarrow UEFI	ls.
EB		Note	The [Boot Mode] setting is set to [UEFI] when [Load Setup Defaults] in BIOS Set Utility (SETUP) is executed.	tup
EB	OS	Ũ	de to XHCI Mode. See Chapter 3 (1. System BIOS) in Maintenance Guide for detail $red \rightarrow USB$ Configuration \rightarrow XHCI Mode \rightarrow Auto The [XHCI Mode] setting is set to[Auto]when [Load Setup Defaults] in BIOS Set	
		Note	Utility (SETUP) is executed.	sup
		-	open Boot Option Priorities in BIOS Setup Utility to make sure that the higher Nindows Boot Manager is specified for optical disk drive.	
		Example	of correct setting	
		-]–[Boot Option Priorities]	
			ot Option #1 [UEFI: Optical Disk Drive] ot Option #2 [Windows Boot Manager]	
	08		The system is booted from the OS installation media.	
		Example of incorrect setting		
EB		[Boot] - [Boot Option Priorities]	
		- 1	Boot Option #1 [Windows Boot Manager]	
			Boot Option #2 [UEFI: Optical Disk Drive]	
		→ ⁻	The system is not booted from the OS installation media.	
		Note	 Be sure to insert OS installation disc into optical disk drive before running BIOS Setup Utility. If Windows Boot Manager is not displayed in Boot Option Priorities, you need not to confirm the boot priority. 	

Hardy	ware co	onfiguration					
The fo	ollowing	hardware configu	irations require special procedures.				
EB	OS	LTO and simila Do not set media	r media a that is unnecessary to installation during setup.				
EB	08	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.					
			ure the dump file size, use Windows standard installer for setup, and allocate the file spacing the dump file to other hard disk drives by performing the following steps.				
		 Set the system partition size to a size sufficient to install the OS and paging file. Specify another disk as the destination to store the debug information (required dump file size) by referring to <i>Chapter 1 (6. Setup for Solving Problems)</i>. 					
			frive does not have enough space to write the dump file, set the partition size to a size all 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 size to install the OS and paging file, expand the partition size or add another hard disk drive.				
		If sufficient spac Windows is com	e cannot be secured for the paging file, perform either of the following after setting up plete.				
		for collec Create a p drive. The is u pag	the hard disk drive other than the system drive as the location to store the paging file the paging file of the installed memory size + 400 MB or more in a drive other than the system e paging file that exists in the first drive (in the order of drive letter C, D, E,) used as the temporary memory dump location. Therefore, the size of the ing file must be "installed memory size + 400 MB" or more. Paging files in				
		rest	amic volumes are not used for dumping memory. The setting is applied after arting the system. ample of correct setting				
			C: No paging file exists D: Paging file whose size is "installed memory size + 400 MB" or more				
			→ The paging file in drive D can be used for collecting memory dump because its size is "installed memory size + 400 MB" or more.				
		Exa	ample of incorrect setting 1				
			C: Paging file whose size is smaller than the installed memory size D: Paging file whose size is "installed memory size + 400 MB" or more				
			→ The paging file in drive C is used for collecting memory dump, but collection may fail because the size of the paging file is smaller than the installed memory size.				





Wind	ows Se	rver 2016 Hyper-V support
EB	OS	Refer to the following web site for information related to Windows Server 2016 Hyper-V. • http://www.58support.nec.co.jp/global/download/w2016/hyper-v/hyper-v-ws2016.html • Chapter 1 (9. Precautions for Using Hyper-V)
When	n compi	ressing system drive
ЕВ	OS	Do not compress the root directory and the Windows directory. Tips The Windows Server 2016 directory is labeled as "Windows". If you compress the root directory and the Windows directory, operational stability cannot be ensured because the Windows File Protection (WFP) may replace an unassigned driver with a signed driver.
Supp	ort for a	Storage spaces and thin-provisioning in Windows Server 2016
EB	OS	The server does not support this feature.
Devic	e Guar	d feature and Credential Guard feature
EB	OS	Device Guard feature and Credential Guard feature are not available for Express Server.

3.1.2 Preparation

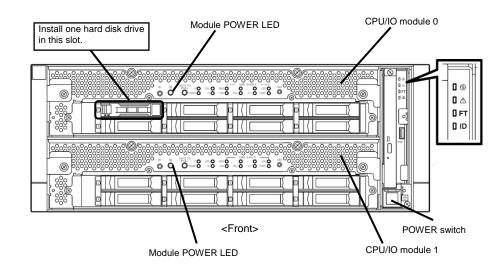
The following steps are required to prepare for re-installing an OS (setup with EXPRESSBUILDER or Windows standard installer):

- 1. When the module POWER LED on CPU/IO module is on, shut down the OS.
- 2. Unplug the power cord from outlet while the module POWER LED is blinking.
- 3. Perform the preparation process for the server as shown below.
 - Install CPU/IO modules 0 and 1.
 - Install one hard disk drive in slot 0 of CPU/IO module 0 only.
 - Disconnect all LAN cables.
 - Disconnect the cable for tape device from the connector on SAS board.
 - Disconnect the cable for device from the connector on Fibre Channel board.

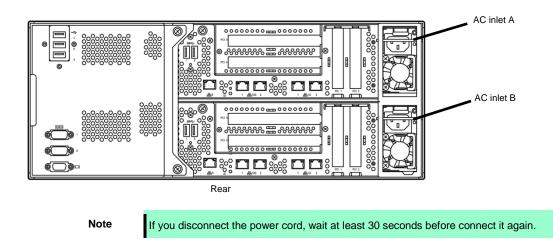
Important If the hard disk drive is not a new one, physically format it. See *Chapter 3 (3.3 Physical Formatting of the Hard Disk Drive)* in *Maintenance Guide* for physical formatting.

4. Confirm that the hard disk drive is installed correctly.

Install only one hard disk drive in CPU/IO module 0. Do not install any hard disk drive in CPU/IO module 1.



- 5. Connect power cords to the server in the following order.
 - (1) Connect a power cord to AC inlet A.
 - (2) Connect a power cord to AC inlet B.
 - (3) Make sure that POWER LED on each module is blinking green.



3.1.3 Disabling OS Boot Monitoring Feature

The following steps are required for installing/re-installing Windows:

Important	The factory setting of [OS Boot Monitoring] is enabled. If you proceed without change, the setup fails.
Tips	For details of operations for BIOS Setup Utility and parameters for boot monitoring function, see <i>Chapter 3 (1. System BIOS)</i> in <i>Maintenance Guide</i> .

1. Turn on the display and peripherals connected to the server.

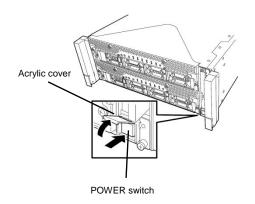


If the power cords are connected to a power controller like a UPS, make sure that it is powered on.

- 2. Remove the front bezel.
- 3. Press the POWER switch located on the front side of the server.

Lift the acrylic cover, and press the POWER switch.

Important Do not turn off the power before the "NEC" logo appears.



After a while, the "NEC" logo will appear on the screen.

	While the "NEC" logo is displayed on the screen, NEC Express5800/ft series performs a power-on self test (POST) to check itself. OS starts upon completion of POST.For details, see <i>Chapter 3 (1.1 POST Check)</i> in <i>User's Guide</i>.
Note	If the server finds errors during POST, it will interrupt POST and display the error message. See Chapter 1 (6.2 POST Error Messages) in Maintenance Guide.

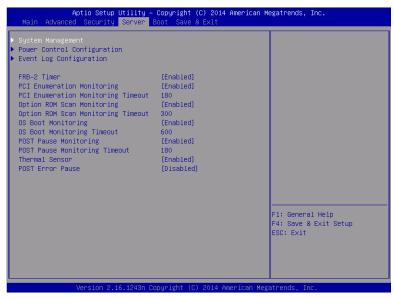
4. When POST proceeds, the following message appears at lower left of the screen.

Press <F2> SETUP, ... (The on-screen message depends on your system environment.) If you press <**F2**>, SETUP will start after POST, and the Main menu appears.

Example:

Aptio Setup Utility – Main Advanced Security Server B	Copyright (C) 2014 American M Boot Save & Exit	egatrends, Inc.
BIOS Information BIOS Version Build Date Access Level UEFI Spec Version	8.0:38 03/30/2015 16:11:45 Administrator 2.3.1	Set the Date. Use Tab to switch between Date elements.
Memory Information Total Memory	16384 MB	
System Date System Time	[Wed 04/22/2015] [09:51:23]	
		F1: General Help F4: Save & Exit Setup ESC: Exit
Version 2.16.1243n Co	opyright (C) 2014 American Meg	atrends, Inc.

5. When you move the cursor onto Server, the Server menu appears.



- 6. Move the cursor onto **OS Boot Monitoring** and press Enter.
- 7. Among the parameters, choose **Disabled** and press **Enter**.
- 8. Move the cursor onto Save & Exit, the Save & Exit menu appears.



9. Select Save changes and Exit.

On the confirmation window shown below, select Yes to save parameters and exit SETUP.

System reboots when SETUP completes.

Save	configura	tion and exit?	
[Yes]	No	

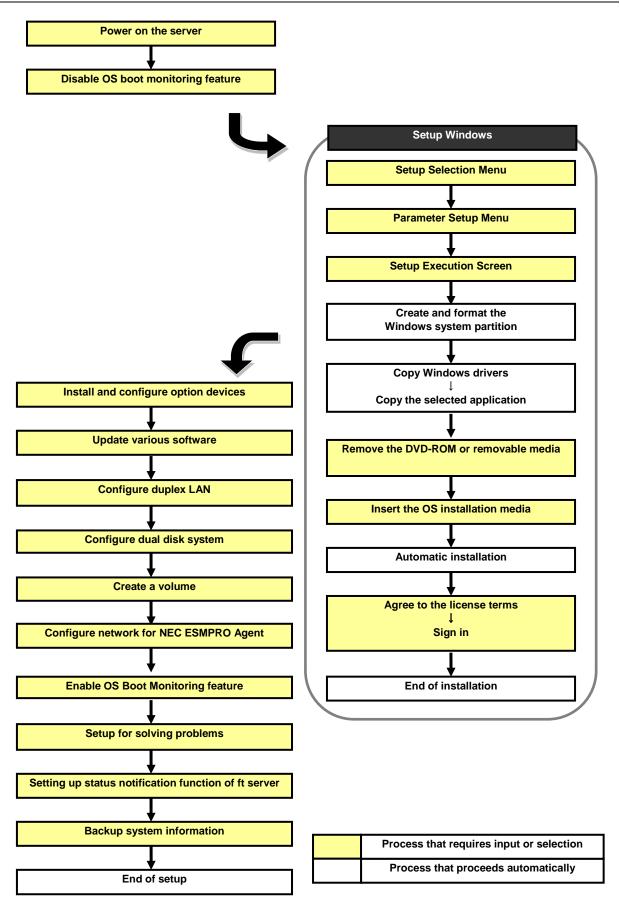
Now OS Boot Monitoring function is disabled.

3.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

Important		Setup with EXPRESSBUILDER deletes 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: – Partition Settings Backing up user data, as needed, is recommended. Before starting setup, be sure to disconnect hard disk drives that are not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup. Although some dialog boxes and popup windows are displayed during installing ft Server Control Software in Setup, do not operate from the keyboard and the mouse. Installation is continued automatically. Do not operate especially although the following dialog is displayed. When installation is stopped with operation of a keyboard or a mouse, there is a possibility that OS does not start normally.
		You must restart your computer to apply these changes Before restarting, save any open files and close all programs. Restart Now Restart Later
Note		vice Guard: virtualization-based security is disabled by using this setup. Do not enable vice Guard feature because this feature is not available for this server.
Tips	•	Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media. For details on creating a parameter file, see <i>Chapter 1 (7. Windows OS Parameter File)</i> .

3.2.1 Setup flow



3.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2016 DVD-ROM*)
- > EXPRESSBUILDER DVD
- Prepare if needed:

Removable media for Windows OS parameter file

ft Server Control Software update

See Chapter 1 (3.7.1 Applying ft Server Control Software Update Module) for more information.

3.2.3 Before setting up

During Setup with EXPRESSBUILDER, parameters are specified through the wizard.

You can also save the parameters as one file (a parameter file) in removable media.

Note

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

3.2.4 Setup procedure

- 1. Prepare for setup according to Chapter 1 (3.1.2 Preparation).
- 2. Be sure to disable OS Boot Monitoring feature according to *Chapter 1 (3.1.3 Disabling OS Boot Monitoring Feature)*.

Important OS Boot Monitoring feature is enabled by the shipping default. Setup process will fail if this feature is enabled.

- 3. Turn the display unit power on, and then turn the server power on.
- 4. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 5. When the following message appears, select **OS installation** *** **default** ***. You can automatically advance to step 6, with no need for further input.

	GNU GRUB	version 2.00
OS installation *∺* default *** Tool menu		
Use the + and + keys to select Press enter to boot the select for a command-line. The highlighted entry will be exe	ted OS, `e'	to edit the commands before booting or `c'

The following window appears.



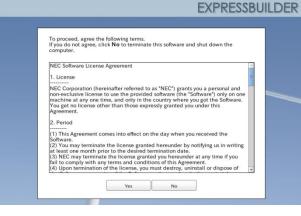
The server starts from EXPRESSBUILDER.



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



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



8. Click Setup.

	Setup	
0	Versions	
Ċ	Exit	

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

Se	lect an operating system to in	stall.
(Cli	ck Manual Selection to configure a RAID arra	ay only)
e	Automatic Detection	
	Manual Selection	
₽	Load Settings	

□ When *not using* a parameter file : Select **Automatic Detection**, and then go to Step 10. : Select **Manual Selection**, and then go to Step 11.

U When *using* a parameter file : Select **Load Settings**, and then go to Step 12.

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

		g system to inst	an.
(Clic			
FO	Automatic De	tection	
		rection	•
Select a automat disc.	n operating system lically with an installation	tion	
B	Load Settings	5	
	Select a	Automatic De Sect an operating system automatically with an installation disc.	Select an operating system automatically with an installation

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

dI.	
D:B2014	1]

10-(3) <u>Click \bigcirc on the right side of the screen.</u> \rightarrow Go to step 13.

	elect an operating system to in	
(Cli	ck Manual Selection to configure a RAID arra	iy only)
6	Automatic Detection	
	Manual Selection	
	Load Settings	

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

Select an operating system to in	nstall.
(Click Manual Selection to configure a RAID and	
Automatic Detection	
Manual Selection	D.
You can select the target OS of the installation from the menu.	
	Setur

11-(2) From the pull-down menu, select Windows Server 2016, and then click OK.

	Select an operatin	g system to install.	
	Windows	Windows Server 2016	0
2			

11-(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 13.

	Select an operati		
E			ay only)
-	Manual Sele	ection	
	Load Setting	gs	

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



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

Places Name		~	Size	Modified	
🐕 Search 🛅 cdro	n1			05/08/2014	
Recently Used					
o root					
🖾 Desktop					
File System					
Documents					
Music					
Pictures					
Videos					Ξ
Downloads					
Add Remove					

Tips

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

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

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

12-(4) When the parameter file is correctly loaded, click \bigcirc on the right side of the screen. \rightarrow Go to step 16.

Click **Custom** to check and modify the setting in the wizard. \rightarrow Go to step 15-(1).

2 Enter installation settings.		1 OS select	on Settings Co	nfirmation Installation	
	Ň	۷		5.	C
		~ 01			C

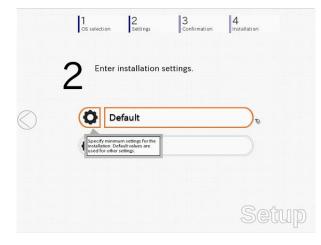
13. Specify the setup parameters by using either of the following methods:

□ When selecting **Default** : Go to Step 14.

 \Box When selecting **Custom** : Go to Step 15.

) Er	ter installation settings.	
•	Default	
63	Custom	

14. Click Default.



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

Sp	Wizard pecify the minimum setting ick Custom if you want to	s to set up the con use the Windows s	nputer. standard installer.		
	Basic Settings Operating system Edition Language Password Settings Administrator Passw Reenter Administrat	: English	erver 2016 Desktop Experience) : :	© (Required) (Required)	-
		Finish		Cancel	IJ

Note

Enter Administrator Password that satisfies the following conditions:
Contains six or more characters
Contains characters from at least three of the following categories: numbers, uppercase letters (A - Z), lowercase letters (a - z), and symbols.

14-(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 16.

	0) Er	iter installation s	ettings.		
C	~	•	Default			C
		61	Custom			
					Set	tup

15. Click Custom.

	1 OS selection 2 Settings	3 Confirmation
	2 Enter installation s	ettings.
\bigcirc	D efault	
	Custom	Ø
	specity all settings for the installation.	
		Setup

15-(1) RAID Configuration is unavailable on this server. Click Next.

	Device Information	
	RAID Controller	: No RAID controller is found.
	Number of Physical Drives	: 1
	Summary of RAID Array	
	RAID Configuration	,

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

Ch	tallation disc. oose Install Windows us plications easily.	Ing EXPRESSBUIL	DER to install both	the operating syst	em and
ĺ	Basic Settings Operating system	: Wir	ndows Server 2016		
	O Use Windows stan	dard installer			
ſ	 Install Windows usi Edition Language Time Zone 	: Standard (D : English	ER esktop Experience) 0) Pacific Time (US & 0		
					4 / 11 Page
	Back	Next		C	ancel

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

	ecify the settings of the			
	ndows will be installed data on the existing pa			
c	urrent Partitions (the area sh	own with a red frame will b	e deleted) :	
	ID 0B(FAT32)	NTFS) Data Partition	Free Space	
		94.9GB) (0.1GB)	(363GB)	
I F	Partition Settings			
	Create a new partit	tion		
/	O Use all space			
	 Type a partiti 		40 (GB)	*1TB=1024GB d: 40GB / Maximum: 558GB)
		(mininging 4	oob / Recommender	a. 4000 / Waxinan. 50005)
			۲	5 / 11 Page
	Back	Next		Cancel

Partition size

Important

Specify a partition size larger than the minimum required for installing the operating system. (See *Chapter 1 (3.1 Before Starting Setup)*.)
 The entire contents of the destination hard disk drive will be erased.

33

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

Type Computer Nar Administrator Pass three of the four cate	word must be at leas	t six o	haracters long and must co e/lowercase/symbols).	ontain characters from
User Information-				
Computer Nar	ne	3.,	Automatic Numbering	
		[BD8685472479	(Required)
User Name		: ;	Administrator	_
Administrator		:		(Required)
Reenter Admir	histrator Password	1		(Required)
			×.	6 / 11 Page

Note	 Enter Administrator Password that satisfies the following conditions: Contains six or more characters Contains characters from at least three of the following categories: numbers, uppercase letters (A - Z), lowercase letters (a - z), and symbols.
Tips	The Computer name has been assigned by automatic assignment function. If you not a set of the

Tip

eed to assign another computer name, remove the checkmark from "Automatic Numbering", 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 Confirm Administrator password text boxes.

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

Standard Settings must be chosen.	
-Network Protocols	
Standard Settings	
Custom Settings	Advanced
	*
	7 / 11 Page
Back Next	Cancel

15-(6) Specifying domain or workgroup is unavailable on this server. Click **Next**.

	:	WORKGROUP	
O Join a domain Domain Name Account Name Password	:		
Reenter Password	:		
			8 / 11 Page

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

Choose Windows components yo	u want to instail.	
Server Roles		
Web Server (IIS)	Print and Document Services	
DHCP Server	File Server	
DNS Server	Hyper-V	
Windows Features		
SNMP Service		Advanced
Simple TCP/IP Service	es	
WINS Server		
		9 / 11 Page
Back	Next	Cancel

15-(8) Check the settings of applications. Click **Next**.

3 Wizard	11	10	10		1.4	
5.	RO Agent is man	datory.				
	Available Applie	cations			lected Applications	
			Add >> << Delete	NEC ESMPR Express Rep Express Rep	O Agent ort Service ort Service(HTTPS)	
Descri	ption					
			k		10 / 11	Page
	Back	Next			Cancel	

On the screen as s	shown be	low, click	Finish
--------------------	----------	------------	--------

The settings are now co Click Finish to close th	omplete. his window.	
		11 / 11 Page
Back	Finish	Cancel

On the screen as shown below, click \bigcirc on the right side of the screen.

	1 OS select	ion Settings	3 Confirmation	4 Installation	
2) Er	nter installation	settings.		
	¢	Default			(
*	¢/	Custom			
				Cat	יח חני
				Set	-

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

ĺ	1 2 OS selection Settings	Confirmation Installation	
	2 Confirm installa	ation settings.	
	(Check if the following	settings are correct or not)	
\bigcirc	Operating system	: Windows Server 2016	
\sim	(Install Windows using EXPRESSB	UILDER)	
	Edition Language Time Zone	: Standard (Desktop Experience) : English (UTC-08:00) Pacific Time (US &	
	Time Zone Partition Settings	Canada)	ר
		Save	
		Set	gu

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

	1 2 3 4 CS selection Settings Confirmation Installation
	Now you are ready to start the setup.
\bigcirc	All data on the partition will be deleted if you proceed. Copying files Changing a CD/DVD
	*
	Start
	Setup

18. In case that you started from the EXPRESSBUILDER DVD, set the EXPRESSBUILDER to the optical disk drive, then click **OK**.

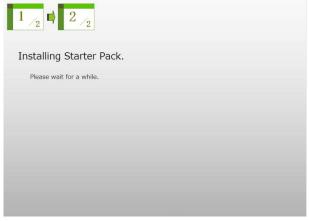
If the EXPRESSBUILDER is already set, this message will not be displayed.

	[Message ID : J2002]
0	

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

Click OK to proceed to the automatic setup.	
(30-90 minutes until completion)	
prompt screen appears.	
[Message ID : J2004]	

Windows Server 2016 is installed automatically. Wait for completion (about 90 minutes) without performing any operation. 20. The Starter Pack and the selected applications are automatically installed. Wait until the process completes without performing any operation.

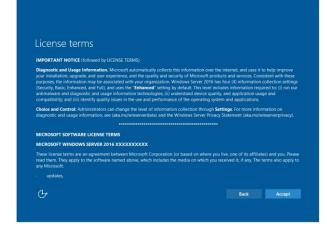


Screen displayed when Starter Pack is being installed

1 /2 D /2	
Installing applications.	
Please wait for a while.	

Screen displayed when an application is being installed

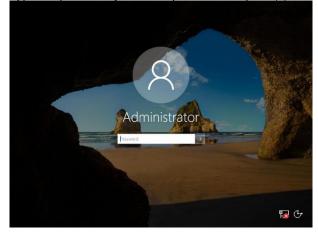
21. Read the terms of License Agreement. Click Accept.



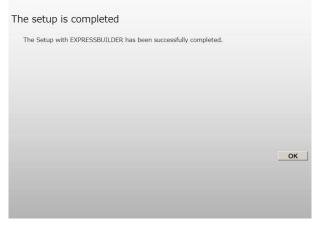
Press <Ctrl> + <Alt> + keys to unlock.



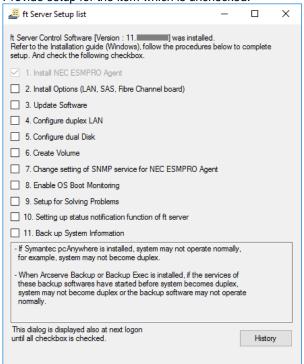
Type the password you have specified in step 14-(1) or 15-(4).



Click OK.



22. When **ft Server Setup list** appears, confirm the list items. Provide setup for the item which is unchecked.



□ Install Options (LAN, SAS, Fibre Channel Board)

If you have an option board that is not yet installed, install it according to *Chapter 2* (5.7 *Installing/Removing/Replacing PCI Card*) in *Maintenance Guide*.

Update Software

See Chapter 1 (3.7.1 Applying ft Server Control Software Update Module).

Configure duplex LAN

See Chapter 1 (3.8 Duplex LAN Configuration).

Configure dual Disk

See Chapter 1 (3.9 Configuring Duplexed Disks).

Create Volume

See Chapter 1 (3.10 Creating Volume).

- Change setting of SNMP service for NEC ESMPRO Agent As described in Chapter 2 (1.1 NEC ESMPRO Agent (for Windows)), setup SNMP service by referring to NEC ESMPRO Agent Installation Guide (Windows).
- Enable OS Boot Monitoring

See Chapter 1 (3.12 Enabling OS Boot Monitoring Feature).

Setup for Solving Problems

See Chapter 1 (6. Setup for Solving Problems).

Tips

If necessary, perform license authentication procedure according to *Chapter 1 (3.13 License Authentication)*.

Back up System Information

See Chapter 1 (8. Backing Up System Information).

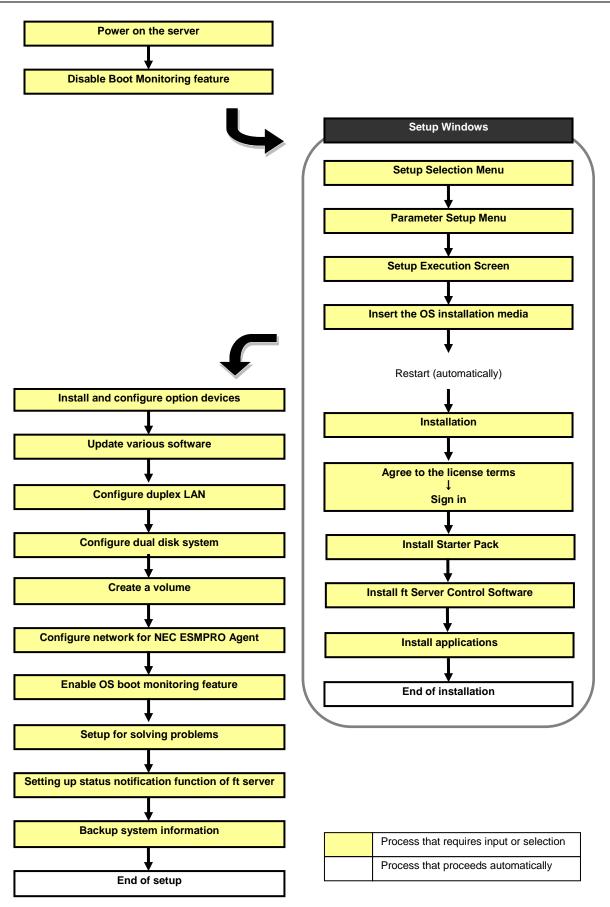
Setup with EXPRESSBUILDER is now complete.

3.3 Setup with Windows Standard Installer

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

Important	 Setup with Windows standard Installer may erase all data in the hard disk drive depending on the settings. Pay attention to input parameters. Backing up user data, as needed, is recommended. Although some dialog boxes and popup windows are displayed during installing ft Server Control Software in Setup, do not operate from the keyboard and the mouse. Installation is continued automatically. Do not operate especially although the following dialog is displayed. When installation is stopped with operation of a keyboard or a mouse, there is a possibility that OS does not start normally.
	Microsoft Windows × You must restart your computer to apply these changes Before restarting, save any open files and close all programs. Restart Now Restart Later
Tips	 Setup with Windows Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media. For details on creating a parameter file, see <i>Chapter 1</i> (7. Windows OS Parameter File).

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 2016 DVD-ROM)
- EXPRESSBUILDER DVD
- Prepare if needed:

Removable media for Windows OS parameter file

ft Server Control Software update See Chapter 1 (3.7.1 Applying ft Server Control Software Update Module) for more information.

3.3.3 Before setting up

Before starting setup, read through Chapter 1 (3.1 Before Starting Setup) for successful setup.

3.3.4 Setup procedure

- 1. Prepare for setup according to Chapter 1 (3.1.2 Preparation).
- 2. Be sure to disable OS Boot Monitoring feature according to *Chapter 1 (3.1.3 Disabling OS Boot Monitoring Feature)*.

Important OS Boot Monitoring feature is enabled by the shipping default. Setup process will fail if this feature is enabled.

- 3. Power on the display unit, and then power on the server.
- 4. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 5. When the following message appears, select **OS installation** *** **default** ***. You can automatically advance to step 6, with no need for further input.

	GNU GRUB	version 2.00
OS installation *≁∗ default *** Tool menu		
Use the * and * keys to select Press enter to boot the select for a command-line. The highlighted entry will be exec	ed OS, `e'	to edit the commands before booting or `c'

The following window appears.



The server starts from EXPRESSBUILDER.

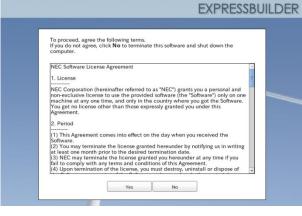


6. Select English on the language selection window, and then click OK.



44 Express5800/R310e-E4, R320e-E4, R320e-M4, R310f-E4, R320f-E4, R320f-M4 Installation Guide (Windows)

7. When the following screen appears, read the contents and click $\ensuremath{\textbf{Yes}}$.



8. Click Setup.

Set up	Setup	8
•	Versions	
Ċ	Exit	

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



□ When *not using* a parameter file : Select **Automatic Detection**, and then go to Step 10. : Select **Manual Selection**, and then go to Step 11.

U When *using* a parameter file : Select **Load Settings**, and then go to Step 12.

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

1 s	elect an operat	ting system to in	stall.	
(C	lick Manual Selection	n to configure a RAID arra	y only)	
[]	Automatic	Detection	<i>"</i>	
Select autom disc.	t an operating system natically with an installation	tion		
B	Load Settin	igs		

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

Insert the OS installation EXPRESSBUILDER will		nt to install.	
	[1	Message ID : B2014]	

10-(3) <u>Click</u> \bigcirc on the right side of the screen. \rightarrow Go to step 13.

	elect an operating system to in	
(Cli	ck Manual Selection to configure a RAID arra	iy only)
* [2]	Automatic Detection	
	Manual Selection	
	Load Settings	

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

1 2 3 OS selection Settings Confirmation	4 Installation
Select an operating system to inst (Click Manual Selection to configure a RAID array of	
Automatic Detection	
Manual Selection	Ø
You can select the target OS of the installation from the menu.	
	Setup

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

	Select an operating	0 0000	
0	Windows	Windows Server 2016	0
	0	Cancel	

11-(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 13.

1		an operating			
	(Click Mar	nual Selection to c	onfigure a RAID arra	ay only)	
E	Au	tomatic Det	ection		
•	Ма	anual Select	ion		
C	Lo	ad Settings			

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

1 OS select	ion Settings	3 Confirmation	4 Installation	
	lect an operatin			
e	Automatic De	etection		
	Manual Selec	ction		
Þ	Load Setting	5		
Load in	istallation settings.		Setuj	D

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

		Choosing a File	×
📝 🗐 mnt 🛛	usr_connect		
Places	Name	✓ Size Modified	^
🙀 Search	Cdrom1	05/08/2014	
Recently Used			
🔯 root			
🔯 Desktop			
File System			
Documents 🖿			
Music			
Pictures			
Videos			=
Downloads			
Add Remov			
Henroy			-
		Cancel Open	
			2

Tips

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

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

	elect an operating		
. (1	lick Manual Selection to	configure a RAID array	only)
E	Automatic De	tection	
	Manual Selec	tion	
< B	Load Settings		

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

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

	ļ	1 OS select	on Settings	3 Confirmation	4 Installation	
~	2		ter installation	settings.		
C	~	су Ф	Default Custom			\bigcirc
					Seí	tup

13. Click Custom.

	1 2 OS selection Settings	3 Confirmation	4 Installation
	2 Enter installation s	ettings.	
3	Default		
	Custom		₹,
	Specify all settings for the installation.		
			Setup

13-(1) RAID Configuration is unavailable on this server. Click Next.

	Uninstall all RAID controllers not to be selected.		
	Device Information		
	RAID Controller	: No RAID control	ler is found.
	Number of Physical Drives	: 1	
	Summary of RAID Array		
	RAID Configuration		
	Skip Configuring RAID Array	0	
		۲	1 / 11 Page
F	Next		Cancel



applications easil					
Operating	system	: W	/indows Server 20	16	
Use V	/indows stan	dard installer			
C Install	Windows usi	ng EXPRESSBUIL	DER		
Editio	n	Standard	Desktop Experient	e) 🖓	
Langu	age	: English	0		
Time	Zone	: (UTC-08:0	0) Pacific Time (U	i & Canada)	÷
					4 / 11 Page

On the screen as shown below, click Finish.

The settings are now complete Click Finish to close this wind	S	
Click Finish to close this wind	ow.	
		11 / 11 Page
	1	()
Back	Finish	Cancel

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

		1 OS select	ion 2 Settings	3 Confirmation	4 Installation	
	2) Er	nter installation s	ettings.		
)		Ø	Default			Ć
	*	¢X	Custom			
					Set	up.

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

1	1 2 3 4 OS selection Settings Confirmation Installation
	Q Confirm installation settings.
	(Check if the following settings are correct or not)
\bigcirc	Operating system : Windows Server 2016 Use Windows standard installer)
	(Use windows standard installer)
	Seitun

15. The setup process starts.

	rt to continue setup.		4 Installation
	Now you are ready t	o start the set	up.
	An installation partition alread All data on the partition will be	y exists. e deleted if you proc	eed.
	 Changing a CD/DVD 		
\bigcirc	 Installing an OS 		
			k
	St	art	
			Setup

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

Insert the EXI	PRESSBUILDER	disc to the drive.	
		[M	essage ID : J2002]
2			
	ок	Cancel	

17. The server reboots automatically.

18. The system starts from the OS installation media.

If an operating system is already installed on the hard disk drive, the message "Press any key to boot from CD or DVD..." is displayed on the top of the screen. Press <**Enter**> key to boot from OS installation media.

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

Note If the Windows setup screen (see the next step) does not appear, <**Enter**> key is not pressed correctly.

19. In case of using backup DVD, choose the OS language if the following screen appears.



20. Click Next at default settings without changing any settings.

Windows Setup		
	H Windows Server 2016	
	anguag <u>e</u> to install: <mark>English (United States)</mark> I currency format: <mark>English (United States)</mark>	.
	l or input method: US	•
En	ter your language and other preferences and click "Next	" to continue.
© 2016 Microsoft Corpo	vration. All rights reserved.	Next

21. Click Install now.



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

G) 🛃 Windows Setup		
	Activate Windows		
	you need to enter a valid Windows product	ws on this PC (or you're installing a different ed oy. Your product key should be in the confirma y of Windows or on a label inside the box that	
	The product key looks like this: XXXXX-XXXX	X-X000X-XX00X-X000X	
	If you're reinstalling Windows, select I don't automatically activated later.	have a product key. Your copy of Windows will	e de la constante de
	Π		
	Privacy statement	I don't have a product key	Next
1 Collecting information 2	Installing Windows		

23. Select the operating system to install, and then click **Next**.

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

Operating system	Architecture	Date modified
Windows Server 2016 Standard	x64	9/16/2016
Windows Server 2016 Standard (Desktop Experience)	x64	9/16/2016
Windows Server 2016 Datacenter	ж64	9/16/2016
Windows Server 2016 Datacenter (Desktop Experience)	х64	9/16/2016
		N

Tips

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

- Windows Server 2016 Standard or Windows Server 2016 Datacenter
 - → Described as "Server Core" by this manual

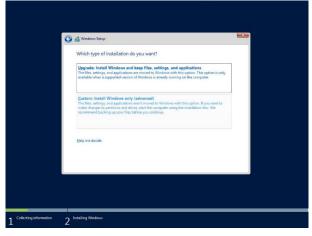
Do not select this as it is not supported by this server.

- Windows Server 2016 Standard (Desktop Experience) or Windows Server 2016 Datacenter (Desktop Experience)
 - → Described as "Desktop Experience" by this manual
- 24. Confirm the content of the license agreement. If you agree, select I accept the license terms and then click Next.

Applicable notices and license terms IMPORTANT NOTICE (followed by LICENSE TERMS)	*
Diagnostic and Usage Information. Microsoft automatically collects this information over the internet, and uses it to help improve your installation, upgrade, and user experience, and the quality and security of Microsoft products and services. Consistent with these purposes, the information may be associated with your capation. Windows Server 2016 has four (4) information collection settings (Security Basic, Enhanced, and Full), and uses the "Enhanced" setting by detuit. This level induce information required to: (1) run our animalware and diagnostic and usage information technologies; (i) understand device quality, and application usage and compatibility and (iii) identify quality (siscus in the use and performance of the operating system and applications.	Ţ
□ jaccept the license terms	
	Next

25. Select the installation type.

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

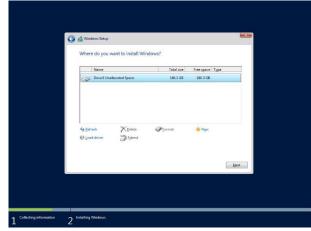


26. Create a partition to install OS.

If you create the partition, click **Drive options (advanced)**. If the partition has already been created, go to step 29.

Name Drive 3 Unallocated Space	Total size Free space Type 1861.7 GB 1861.7 GB	
fig Safrach	Drive options (ghainced)	
Canad driver	Net	

27. Click New.



28. Specify the partition size in the Size, and then click Apply.

4 Edma ∑Edma ØErmat ♦ Nov @ Load Shire @ Egnal Size [NG479 → M8 Agety Senae]	9	Name Drive 0 Unalloca	sted Space	371.6 G8	Free space 371.6 GB	Туре	
						Apply	ancel

Click OK in the screen below.

0	To ensure that all Windows features work corre- additional partitions for system files.	ctly, Windows might create
		OK Cancel

Tips

If you first create a partition, the following three partitions are created. **Recovery partition** EFI system partition (ESP) Microsoft reserved partition (MSR) _

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



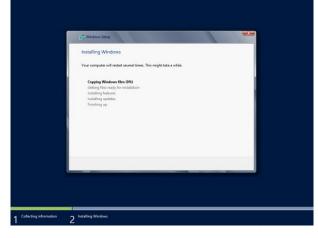
30. Select the created partition, and then click Next.

	Name		Total size	Free space	Туре
<i>~</i>	Drive 0 Partition	1: Recovery	300.0 MB	273.0 MB	Recovery
9	Drive 0 Partition	2	100.0 MB	95.0 MB	System
9	Drive 0 Partition	3	128.0 MB	128.0 MB	MSR (Reserved)
SP 1	Drive 0 Partition	4	278.4 GB	278.4 GB	Primary
€∌ <u>B</u> efres @ Load		<mark>⊁ Delete</mark> ∰ Estend	✓ Format	∦ Ngw	Net

Important If the four partitions, Recovery, System, MSR (reserved), and Primary are not displayed, the partitions are not created successfully. Delete the created partitions and then create the partitions again. If a data disk is connected with this server, be careful not to delete other partitions.

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

When the following message appears, Windows installation starts automatically.



The server will automatically restart after Windows Server 2016 is installed. You can proceed to Windows setup after restart.

Set up in accordance with an OS selected in step 23.
 31-(1) Type a password and click Finish.

Type a password for I	the built-in administrator acc	count that you can use to	sign in to this compu	
User name				
Password	1			
Reenter password				

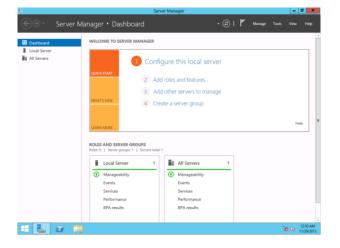
31-(2) Press <Ctrl> + <Alt> + <Delete> to unlock.



31-(3) Type the password and press <Enter>.



32. Windows Server 2016 starts.



- 33. Install Starter Pack by referring to Chapter 1 (3.4 Installing Starter Pack).
- 34. Install the ft Server Control Software according to *Chapter 1 (3.5 Installing ft Server Control Software)*. When installation completes, Setup Checklist appears on screen.
- 35. Install the NEC ESMPRO Agent.

Tips

See Chapter 2 (1.1 NEC ESMPRO Agent (for Windows)) for installation of NEC ESMPRO Agent.

36. When **ft Server Setup list** appears, confirm the list items. Provide setup for the item which is unchecked

ft Server Setup list		×
ft Server Control Software [Version : 11. Refer to the Installation guide (Windows), follow the procedures below to setup. And check the following checkbox.	complete	
1. Install NEC ESMPRO Agent		
2. Install Options (LAN, SAS, Fibre Channel board)		
3. Update Software		
4. Configure duplex LAN		
5. Configure dual Disk		
6. Create Volume		
7. Change setting of SNMP service for NEC ESMPRO Agent		
8. Enable OS Boot Monitoring		
9. Setup for Solving Problems		
10. Setting up status notification function of ft server		
11. Back up System Information		
- If Symantec pcAnywhere is installed, system may not operate normally, for example, system may not become duplex.		
 When Arcserve Backup or Backup Exec is installed, if the services of these backup softwares have started before system becomes duplex, system may not become duplex or the backup software may not operation normally. 	te	
This dialog is displayed also at next logon until all checkbox is checked.	History	1

□ Install Options (LAN, SAS, Fibre Channel board)

If you have an option board that is not yet installed, install it according to *Chapter 2* (5.7 *Installing/Removing/Replacing PCI Card*) in *Maintenance Guide*.

Update Software

See Chapter 1 (3.7.1 Applying ft Server Control Software Update Module).

Configure duplex LAN

See Chapter 1 (3.8 Duplex LAN Configuration).

Configure dual Disk

See Chapter 1 (3.9 Configuring Duplexed Disks).

Create Volume

See Chapter 1 (3.10 Creating Volume).

□ Change setting of SNMP service for NEC ESMPRO Agent

As described in Chapter 2 (1.1 NEC ESMPRO Agent (for Windows)), setup SNMP service by referring to NEC ESMPRO Agent Installation Guide (Windows).

Enable OS Boot Monitoring

See Chapter 1 (3.12 Enabling OS Boot Monitoring Feature).

Setup for Solving Problems

See Chapter 1 (6. Setup for Solving Problems).

Tips

If necessary, perform license authentication procedure according to Chapter 1 (3.13 License Authentication).

Back up System Information

See Chapter 1 (8. Backing Up System Information).

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 apply Starter Pack in the following cases.
	 If the mother board has been replaced: (If a dialog box prompting you to restart appears after replacing the mother board, reboot the system according to messages and then apply Starter Pack.)
	If the system has been restored using the restore process
	If the system has been restored using the backup tool
Note	Device Guard: virtualization-based security is disabled by using this setup. Do not enable Device Guard feature because this feature is not available for this server.
Tips	If the OS is installed by EXPRESSBUILDER without using Windows Standard Installer, Starter Pack is already installed. If the hardware configuration is not changed, you do not need to apply Starter Pack again.
	ayanı.

- 1. Sign-in to the system as the built-in administrator (or user with administrative privileges).
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. Click Integrated Installation on the menu. When the menu does not automatically run, run \autorun\dispatcher_x64.exe.

	NEC EXPRESSBUILDER	
EXPRESSBUILDEF	2	NEC
	Instruction Manuals	
I	Versions	
F	Integrated Installation	
	Applications	
	Files for Setup	
	Exit	
		Version 7.00-000.01(000)

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

	Integrated Installation			
	Install the following software. - Install Starter Pack prior to installing t - Uninstall the application prior to reins		tion.	
U	Starter Pack			
	Applications HEC ESMPRO Agent Ver.4.6 Express Report Service Express Report Service (HTTPS) Product Info Collection Utility BMC Configuration	Rev4.65 Rev3.5E Rev3.5 Rev2.7.3 Rev1.42	Not installed Not installed Not installed Not installed Not installed	
				nstall

Tips

If Starter Pack is already installed, the **ft Server Control Software** is selected by default. To install Starter Pack again, select the **Starter Pack**.

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

	Starter Pack	×
2	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	

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

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

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

Installation of Starter Pack is now complete.

3.5 Installing ft Server Control Software

You must quit all programs including Microsoft management console.

Important ft Server Control Software does not support the overwrite installation feature (uninstallation and re-installation). If ft Server Control Software causes an error and restoration is needed, perform restoration using the data backed up before the error occurred.

1. Install ft Server Control Software in the following procedure.

When ft Server Control Software UPDATE media is not provided:

- (1) After signing in to the system as a user with the Administrative account, insert the EXPRESSBUILDER DVD into the optical disk drive of the server.
- (2) On the menu screen, click Integrated Installation, select ft Server Control Software on the menu, and then click Install.

	NEC EXPRI	ESSBUILDER		
EXPRE	ESSBUILDER			NEC
	SSBUILDER Integrated Installation Install the following software, - Install Starter Pack Proto installing - Uninstall the application prior to installing - Uninstall the application prior to installing - NEC ESMPRO Agent Ver.4.6 - Express Report Service - Express Report Service (HTTPS) - Product Info Collection Utility - BMC Configuration - Starter Pack - Starter		Not installed Not installed Not installed Not installed Not installed	NEC
				Install

When ft Server Control Software UPDATE media is provided:

Install ft Server Control Software from the UPDATE media according to *Instruction Manual* that comes with the media.

Follow the instructions to proceed with the installation.

Note

The message "**ft Server Control Software, Now Installing... Please Wait.**" is displayed during installation. Do not use the keyboard or mouse while this message is being displayed.

- 2. When installation starts, a message "If there is a disc in the DVD drive, please remove it." will be displayed. If EXPRESSBUILDER DVD is set in optical disk drive, remove it.
- 3. The system is rebooted several times during the installation. After the system is rebooted, sign in again as the user logged in before rebooting.

Installation of the ft Server Control Software resumes after you signed in.

4. When the message "Installation is finished" is displayed, click OK to reboot the server.

Note

Change the screen to check the message by using the taskbar, as the message may hide behind the screen.

3.6 Installing Applications

Some applications stored in EXPRESSBUILDER can be installed collectively in a batch. When installing these applications individually, see *Chapter 2 (Installing Bundled Software)*.

- 1. Sign-in to Windows on the server as the Built-in Administrator (or an account having administrative privilege).
- 2. Insert the EXPRESSBUILDER DVD into the optical disk drive and run \autorun\dispatcher_x64.exe.
- 3. Click **Integrated Installation** on the menu.

	NEC EXPRESSBUILDER	
EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files for Setup	
	Exit	
		Version 7.00-000.01(000)

4. On the following screen, select **Applications**, and select the check boxes corresponding to the applications to install, and then click **Install**.

	NEC EXPRESSBUILDER		
EXPRESSBUILDER		NEC	
Integrated Insta	allation		
	rare. r to installing the application. prior to reinstalling the application.		
O Starter Pack			
Applications NEC ESMPRO Agent Ve Express Report Service Product Info Collection BMC Configuration	Rev3.5E Not (HTTPS) Rev3.5 Not Utility Rev2.7.3 Not	installed installed installed installed installed	
		Install	
Note	Check boxes for	or available applic	ations are selected by default.
			the requirements for installation are not installed. I n the window and Chapter 2 (Installing Bund

The selected applications are installed automatically.

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

Now installation of applications is completed.

3.7 Setup Various Software

3.7.1 Applying ft Server Control Software Update Module

If you use ft Server Control Software UPDATE media, refer to the installation procedure enclosed in the UPDATE media to apply the update.

Note	 Be sure to disable OS Boot Monitoring feature before updating ft Server Control Software according to <i>Chapter 1 (3.1.3 Disabling OS Boot Monitoring Feature)</i>. In addition, disconnect all the network cables from the server before starting update.
	Upon completion of update, set OS Boot Monitoring feature to Enabled.

3.7.2 Applying Security Patches and QFE

When applying security patches and QFE, there is no restriction specific to ft Server is imposed. Apply patches according to your system environment.

Important

As for Windows service pack, use only the one provided with the server. Do not apply any other service pack.

3.8 Duplex LAN Configuration

The Express5800/ft series builds a duplex LAN configuration by using "Stratus emb-I350 2-Port Gigabit Adapter" or "Stratus emb-X540 2-Port Copper 10 Gigabit Adapter (*)" mounted as standard on the CPU/IO module and the additional LAN card "Stratus I350 2-Port Gigabit Adapter" or "Stratus X540 1-Port Copper 10 Gigabit Adapter".

(*) Express5800/R310e-E4, R320e-E4, R310f-E4, R320f-E4 do not have this adapter.

(1) Overview

Duplex LAN configuration is using Windows Server 2016 NIC teaming (LBFO).

Please refer to the technical site of Microsoft Corporation about details of LBFO.

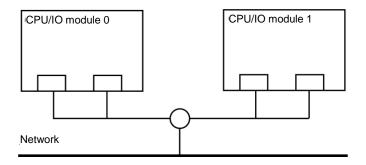
Refer to Chapter 1 (4.8 Duplex LAN Configuration) for Duplex LAN in Windows Server 2012 R2.

(2) Rules of Duplex Configuration on Express5800/ft series

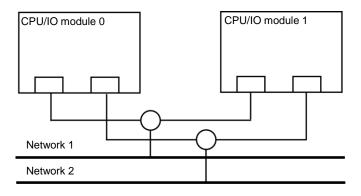
Ensure to make the setting of duplex network configuration on the server.

When building duplex configuration, be sure to use both adapters of CPU/IO module 0 and of 1.

Example1) Configure the duplex network which enhances the availability by using all adapters.



Example 2) Configure the duplex network which corresponds to multiple LAN connection.



(3) Configuring Duplex LAN

The following explains how to configure duplex/dual LAN.

Important	If configuring a duplex network, make sure that the CPU/IO module is set to duplex. If the CPU/IO module is in simplex status, the team properties of NIC teaming cannot be opened. Make sure to configure the duplex network according to the following procedure while the CPU/IO module is in duplex status.
Note	 Because the configuration from the remote site may fail, you need to log on as an Administrator or a member of Administrators group.
	 The screen images are subject to change because of the network driver version. Substitute as appropriate when content has been modified.

1. Select Start – Server Manager.

2. Select Local Server.

🔁 Server Manager			– 🗆 X
Server Ma	anager 🔸 Local Sei	rver 🛛 🕄 🛛 🖡	<u>M</u> anage <u>T</u> ools <u>V</u> iew <u>H</u> elp
IIII Dashboard	PROPERTIES For WIN-TM3RAN2G8T	E	TASKS 👻
Local Server All Servers ■ File and Storage Services ▷	Computer name Workgroup	WIN-TM3RAN2G8TE WORKGROUP	Last installed updates Windows Update Last checked for updates
	Windows Firewall Remote management Remote Desktop NIC Teaming Ethernet Ethernet 2 Ethernet 3 Ethernet 4	Public: On Enabled Disabled Not connected Not connected Not connected Not connected	Windows Defender Feedback & Diagnostics IE Enhanced Security Configurati Time zone Product ID
	Operating system version Hardware information	Microsoft Windows Server 2016 Datacenter NEC Express5800/R320e-E4 [N8800-201Y]	Processors Installed memory (RAM) Total disk space
	< EVENTS All events 325 total Filter	ρ ⊞ ▼ ℝ ▼	TASKS

3. In the Properties window, click **Enabled** or **Disabled** for **NIC teaming**.

NIC Teaming Direction Ethernet Not connected Ethernet 2 Not connected Ethernet 3 Not connected Ethernet 4 Not connected Operating system version Microsoft Windows Server 2016 Datacenter	Dashboard	For WIN-TM3RAN2G81	re	TASKS 🔻
Remote management Enabled Feedback & Diagnostics Remote Desktop Disabled IE Enhanced Security Configure NIC Teaming Disabled Time zone Ethernet 2 Not connected Product ID Ethernet 3 Not connected Ethernet 4 Operating system version Microsoft Windows Server 2016 Datacenter Processors	All Servers			Windows Update
		Remote management Remote Desktop NIC Teaming Ethernet Ethernet 2 Ethernet 3	Enabled Disabled Disabled Not connected Not connected Not connected	Feedback & Diagnostics IE Enhanced Security Configurat Time zone
Hardware information NEC Express3800/K32Ue-E4 [N8800-201Y] Installed memory (KAM) Total disk space		Operating system version Hardware information	Microsoft Windows Server 2016 Datacenter NEC Express5800/R320e-E4 [N8800-201Y]	Installed memory (RAM)

4. The NIC teaming setup tool will launch.

Name	Status	Server Type	Operating System Version	Teams		
WIN-TM3RAN2G8TE	1 Online	Physical	Microsoft Windows Server 2016 Datacenter	0		
		TASKS	ADAPTERS AND INTERFACES		ταςκς	•
All Teams 0 total		TASKS			TASKS	•
All Teams 0 total	iming Mode Loi	TASKS ad Balancing Adap	Network Adapters Team Interfaces		TASKS	•
All Teams 0 total	Iming Mode Loa				TASKS	•
All Teams 0 total	iming Mode Lo		Network Adapters Team Interfaces	eason		▼ ^
TEAMS All Teams 0 total	ming Mode Lo		Network Adapters Team Interfaces Adapter Speed State Ru	eason		▼

5. Select the adapters to include in the team.. Right-click on it and select **Add to New Team**.

NIC Teaming								-		>
SERVERS All Servers								TAS	KS 🔻	·
Name	Status	Server	r Type	Operating System Versi	on	-	Teams			
WIN-TM3RAN20	68TE 🕜 Online	Physic	al	Microsoft Windows Sen	ver 2016 Data	acenter (D			
TEAMS All Teams 0 tota	al	T	TASKS	ADAPTERS A	ND INTERF	ACES		TASK	S 🔻	
All Teams 0 tota	al Teaming Mode			•				TASK	s 🔻]
All Teams 0 tota				Network Adapt	ers Team Int		eason	TASK	S 🔻]
All Teams 0 tota				Network Adapt	ers Team Int	terfaces			S 🔻	
All Teams 0 tota				Network Adapt Adapter Sp Available	ers Team Int	terfaces State Re ed to a t	team (4	1)	-	
All Teams 0 tota				▼ Network Adapt Adapter Sp ▲ Available Ethernet Dis Ethernet 2 Dis	ers Team Int eed set to be adde connected	terfaces State Re ed to a t	team (4 Add to 1		m	
All Teams 0 tota				 Network Adapt Adapter Sp Available Ethernet Dis 	ers Team Int eed 9 2 to be adde connected connected	terfaces State Re ed to a t	team (4 Add to 1	l) New Tea	m	

Note	Check "PCI bus" and "Function (*)" of adapters to be included in the team. Use adapters of the same functionality. Create a team with an adapter having smaller PCI bus number and an adapter having larger PCI bus number.
	(*) "Function" can be verified in General tab of Properties window.
	PCI bus: Smaller value (PCI module #0 side) Larger value (PCI module #1 side)
	Function: 0 (Port #0 side) 1 (Port #1 side)
	Example:
	Team 0 PCI bus (smaller value), Function 0 (Port #0 side) PCI bus (larger value), Function 0 (Port #0 side) Team 1 PCI bus (smaller value), Function 1 (Port #1 side) PCI bus (larger value), Function 1 (Port #1 side)

6. Type the name of the team to create, and then select the network adapter to include in the team from the **Member adapters** list.

NIC Teamin	9					×
New	team					
Team Team	name: 1					
Memb	er adapters:					_
	Ethernet 2 Ethernet 3	Speed Disconnected Disconnected Disconnected	State	Reason		
<u>ه</u>	dditional prope	rties				
					OK Cancel	

7. Click Additional properties.

Specify the required settings, and then click **OK**.

Teaming mode

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

Load balancing mode

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

Standby adapter

Select one adapter to be set to standby mode from the adapters in the team. Setting all adapters to active mode is also possible.

Primary team interface

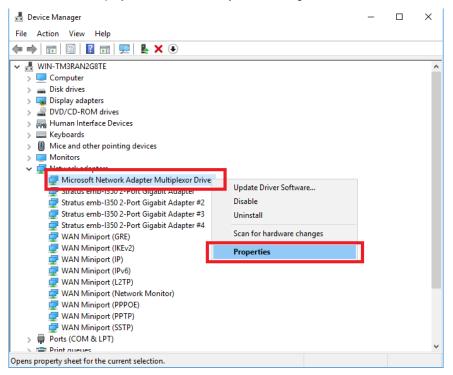
Any VLAN ID can be specified for the primary team interface.

IC Teaming		Х
New team		
Team <u>n</u> ame:		_
Team1		
Member adapters:		
In Team Adapter Spee	d State Reason	
Ethernet Disco	onnected	
Ethernet 2 Disco	nnected	
Ethernet 3 Disco	nnected	
Ethernet 4 Disco	onnected	
Additional properties]
Teaming mode:	Switch Independent	
Load balancing mode:	Dynamic Y	
Standby adapter:	None (all adapters Active)	
Primary team interface:	Team1; Default VLAN	
	OK Cancel	
		_

8. Start Command prompt and enter as follows to check the physical MAC address of team adapter. > ipconfig /all

<pre>Administrator: Command Prompt</pre>				
Ethernet adapter Ethernet 3: Media State Media disconnected Connection-specific DNS Suffix . : Description	B Administrator: Command Prompt	-		×
Media State Media disconnected Connection-specific DNS Suffix	WINS Proxy Enabled No			^
Connection-specific DNS Suffix . : Description : Stratus emb-I350 2-Port Gigabit Adapter #2 Physical Address : S8-C2-32-0D-F1-9A DHCP Enabled : Yes Autoconfiguration Enabled : Yes Ethernet adapter Ethernet 4: Media State : Media disconnected Connection-specific DNS Suffix . : Description : Stratus emb-I350 2-Port Gigabit Adapter #3 Physical Address : : Yes Ethernet adapter Team1: Media State : : Media disconnected Connection-specific DNS Suffix . : Description : : Media disconnected Connection-specific DNS Suffix . : Description : : Media disconnected Connection-specific DNS Suffix . : Description : : : Media disconnected Connection-specific DNS Suffix . : Description : : : : : : : : : : : : : :	Ethernet adapter Ethernet 3:			
Media State : Media disconnected Connection-specific DNS Suffix : Description : Stratus emb-I350 2-Port Gigabit Adapter #3 Physical Address : 58-C2-32-0D-F1-99 DHCP Enabled : Yes Ethernet adapter Team1: Media State : Media disconnected Connection-specific DNS Suffix : Description : Media disconnected Connection-specific DNS Suffix : Description : Microsoft Network Adapter Multiplexor Driver Physical Address : S8-C2-32-0D-F1-99 DHCP Enabled : Yes	Connection-specific DNS Suffix .: Description Stratus emb-I350 2-Port Gigabit Ada Physical Address : 58-C2-32-0D-F1-9A DHCP Enabled : Yes	apter #2	2	
Connection-specific DNS Suffix . : Description : Stratus emb-I350 2-Port Gigabit Adapter #3 Physical Address : 58-C2-32-0D-F1-99 DHCP Enabled : Yes Autoconfiguration Enabled : Yes Ethernet adapter Team1: Media State : Media disconnected Connection-specific DNS Suffix .: Description : Microsoft Network Adapter Multiplexor Driver Physical Address : Yes Autoconfiguration Enabled : Yes	Ethernet adapter Ethernet 4:			
Media State Media disconnected Connection-specific DNS Suffix	Connection-specific DNS Suffix .: Description Stratus emb-I350 2-Port Gigabit Ada Physical Address : 58-C2-32-0D-F1-99 DHCP Enabled : Yes	apter #3	3	
Connection-specific DNS Suffix .: Description Microsoft Network Adapter Multiplexor Driver Physical Address	Ethernet adapter Team1:			
C:\Windows\system32>	Connection-specific DNS Suffix .: Description Microsoft Network Adapter Multiple; Physical Address	kor Driv	/er	
	C:\Windows\system32>			~

9. Select the Team Adapter you have set from Device Manager. Right-click on it and select Properties from the menu displayed to show the Properties dialog box.



- 10. Specify the physical address (MAC address) of team adapter as follows:
 - Select the Advanced tab on the properties dialog box. Select MAC Address from the Property list box.
 - Enter the MAC address of a Team Adapter, which you have checked in Step 8, in the Value text box.
 - Click OK.

Microsoft Network Adapter Multiplexor Driver Properties	×
General Advanced Driver Details Events	
The following properties are available for this network adapter. Click the property you want to change on the left, and then select its value on the right.	
Property: Value:	
Encapsulated Task Offload Header Data Split IPsec Offload Encapsulated Task Offload C Not Present	
Large Send Offload Version 2 (IPv+	
MAC Address	
Recv Segment Coalescing (IPv4) Recv Segment Coalescing (IPv6) TCP Checksum Offload (IPv4) TCP Checksum Offload (IPv6) UDP Checksum Offload (IPv4) UDP Checksum Offload (IPv6) ✓	
OK Car	icel

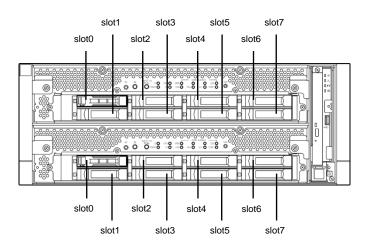
3.9 Configuring Duplexed Disks

Express5800/ft series secures data by setting dual disk configuration using RDR (Rapid Disk Resync) function. Be sure to make dual disk settings according to the procedure described below.

Important	•	Set dual disk configuration by the RDR (Rapid Disk Resync) function.
	•	To use RDR (Rapid Disk Resync) function, sign in to a built-in Administrator
		account.
	•	CPU/IO module has a processor function part and IO function part, and monitors
		and manages each part. The IO function part is referred to as PCI module in this
		section.
	•	All hard disk drives installed in built-in slots need to be duplexed. See Chapter 1
		(3.9 (1) Setting Dual Disk Configuration by RDR (Rapid Disk Resync) function)
		and duplex the hard disk drives in each slot.

(1) Setting Dual Disk Configuration by RDR (Rapid Disk Resync) function

The server sets dual configuration for each disk by the RDR function of the ft Server Control Software. By setting RDR, as the following figure and table show, dual configuration is set between the disks of the corresponding slots, and these disks are recognized as one virtual disk by OS (such as Disk Management and Device Manager).



Slots corresponding to the mirroring process

Corresponding slot
PCI module 10 Slot 0 ⇔ PCI module 11 Slot 0
PCI module 10 Slot 1 ⇔ PCI module 11 Slot 1
PCI module 10 Slot 2 ⇔ PCI module 11 Slot 2
PCI module 10 Slot 3 ⇔ PCI module 11 Slot 3
PCI module 10 Slot 4 ⇔ PCI module 11 Slot 4
PCI module 10 Slot 5 ⇔ PCI module 11 Slot 5
PCI module 10 Slot 6 ⇔ PCI module 11 Slot 6
PCI module 10 Slot 7 ⇔ PCI module 11 Slot 7

In the table above, PCI module names correspond as follows:
 PCI module (for CPU/IO module 0) - PCI module 10
 PCI module (for CPU/IO module 1) - PCI module 11

Note	• To perform this procedure, you need to sign in to a built-in Administrator account.
	 RDR can only be set on the basic disk inserted into the built-in slot of NEC Express5800/ft series. It cannot be set on the dynamic disk.
	• For the disk on which RDR is set, use the products with the same model number.
	 Configure the RDR settings in the same way not only when the OS is installed but also when the disk is added to the PCI module.
	Create partitions only after the duplication of the hard disk drives are configured.
	• Use a basic disk as the system disk. Only a data disk can be used for a dynamic disk.

Dual disk configuration procedure differs depending on the procedure whether it is for the system disk (slot 0) or the data disk (slot 1 to slot 7).

Tips

To configure the dual disk of the system disk, see (2) System Disk Dual Configuration Procedure below.

To configure the dual disk of the data disk, see (3) Data Disk Dual Configuration Procedure below.

(2) System Disk Dual Configuration Procedure

Configure the dual disk of the system disk with the following procedure.

From Start Screen, click (1) and RDR Utility to start RDR Utility.

1. On the left pane of the RDR Utility, select **Slot 0** of **PCI module 10** and confirm that "**ConfigState**" on the right pane shows "**Boot, Configured, Active, Imported**".

<u>Eile Action H</u> elp							
PCI module 10	Name		Value				
	DevicePathID		10/40/1/0				
Slot 0 - Harddisk0-LUN1-PLEX0	Op State: State		Simplex				
Slot 1 Slot 2	Op State: Reason		None				
Slot 2	Vendor		SEAGATE				
Slot 4	ProductID		ST300MP00	05			
- Slot 5	ProductRevisionLevel		N003				
- Slot 6	SerialNumber			000M6511U7N			
Slot 7	ObjectName		Harddisk0-LU				
PCI module 11	Capacity		279.4 GP	5111122245	_		
SCSI Enclosure	ConfigState		Boot, Configu	ured, Active, Imported	i l		
Slot 0	MIBF: HardCurrent		Unknown				
··· Slot 1	MTBF: HardNumberO	fFaults	0				
··· Slot 2	MTBF: SoftCurrent		Unknown				
··· Slot 3	MTBF: SoftNumberOf	Faults	0				
··· Slot 4	SSD Endurance(%)						
- Slot 5							
Slot 6 Slot 7							
Logical Disk Information	PCI module 10						\otimes
. BDR Virtual Disk 1	Slot0 279.4 GB	Slot2		Slot4	Slot6		
···· RDR Villual Disk 1	Simplex (LUN 39/1) DO NOT REMOVE	Empty		Empty	Empty		
	DO NOT REMOVE						
	Slot1	Slot3		Slot5	Slot7		
	Empty	Empty		Empty	Empty		
							0
	PCI module 11						
	Slot0	Slot2		Slot4	Slot6		°
	Empty	Empty		Empty	Empty		
	Slot1	Slot3		Slot5	Slot7	 	╘
	Empty	Empty		Empty	Empty		

Tips

- For details of RDR Utility, see *Chapter 2 (1.2 Disk Operations Using RDR (Rapid Disk Resync) Function)* in the *Maintenance Guide*.
 The display of RDR Utility does not refresh automatically. From the menu, go to Action and click Refresh or press F5 key every time you conduct disk-related operations such as connecting/disconnecting disks or configuring the RDR.
 On RDR Utility, PCI module names appear as follows.

 PCI module (CPU/IO module 0) PCI module 10
 PCI module (CPU/IO module 1) PCI module 11
- 2. Insert the disk for the dual configuration to the Slot 0 of PCI module 11.

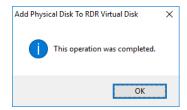
For a disk to be inserted, use a new or physically formatted disk which has the same capacity as the synchronization source. If such a disk is not used, disks are not duplicated successfully.
As for physical format, see Chapter 3 (3.3 Physical Formatting of the Hard Disk
Drive) in Maintenance Guide.

When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

3. On the left tree of RDR Utility, right-click **Slot 0** disk of **PCI module 11** and click **Add Physical Disk To RDR Virtual Disk**.

🗿 RDR Utility (ft-SW:	X.X.X.X)			
File Action Help				
PCI module 10 SCSI Enclosure SIot 0 - Harddiski Siot 2 Siot 3 Siot 4 Siot 5 Siot 6 Siot 7 PCI module 11	J-LUN1-PLEX0	Name DevicePathID Op State: State Op State: Reason Vendor ProductID ProductRevisionLevel SerialNumber ObjectName Capacity	Value 11/40/1/1 Online None HGST HUC156030CSS200 A30B 0TG15R9L Harddisk1 279.4 GB	
SCSI Enclosure Slot 0 - Harddisk Slot 2 Slot 3 Slot 3 Slot 4 Slot 5 Slot 5 Slot 6	Create RDR Virtua Add Physical Disk Remove Physical	ConfigState MTRF: HardCurrent I Disk To RDR Virtual Disk Disk From RDR Virtual Disk guration on Physical Disk	Unconfigured Unknown	
Slot 7 Logical Disk Informatic RDR Virtual Disk 1	Clear Hard MTBF Clear Soft MTBF Resynchronize Th	is Physical Disk From RDR Virtua	Slot4 Empty	Slot6 Empty
	Set As Active RDR	Plex Empty Empty PCI module 11 Slot0 279.4 GB Slot2 Online Empty	Slot5 Empty Slot4 Empty	Slot7 Empty Slot6 Empty

4. Click OK.



5. Verify that disk synchronization has started and the status of the DISK ACCESS LED and RDR Utility display changes as the following table.

	DISK ACCESS LED	RDR	Utility
	DISK ACCESS LED	Op State: State	Status
Source disk	Blinking amber and green	Simplex	-
Destination disk	Blinking amber and green	Syncing	_
RDR Virtual Disk	_	Simplex	Resync x % (x = 0, 4, 8,, 96)

Synchronizing

Tips

DISK ACCESS LED is lit green when hard disk drive is accessed. If access is made while synchronization is in progress (LED is blinking amber), it seems that the green and amber LEDs are lit alternately.

The time required for synchronization varies depending on the partition size on the disk. For a 279 GB partition, it takes about 160 minutes.

<u>File Action H</u> elp					
PCI module 10 SCSI Enclosure Slot 0 - Harddisk0-LUN1-PLEX0 Slot 1 Slot 2 Slot 4 Slot 5 Slot 7 PCI module 11 SCSI Enclosure Slot 0 - Harddisk0-LUN1-PLEX1 Slot 2	Name Device Path D Op State: State Op State: Heason Vendor Product Revision Level Serial Number Capacity Object Name Caption Device Path [1] Device Path [2] Active RDRPlex		Value 29/1 Simplex Stratus Data Duplex LUN 9 Scoc4f58-342d-421f-9f67-15 279 4 GB Harddisk0 RDR Virtual Disk 1 10/40/1/0 11/40/1/0 Harddisk0-LUN1-PLEX0	ic475f7ac55	
Slot 3 Slot 4 Slot 5 Slot 6 Slot 7 Slot 7 Slot 7 Slot 7 Slot 7 Slot 7 Slot 8 Slot 7 Slot 8 Slot 7 Slot 8 Slot 7 Slot 8 Slot 8	Advenortex ReadLoadBalancing Bespool UNBrothy Status PCI module 10 Stot0 279.4 GB Simplex (LUN 39/1) DO NOT REMOVE		Normal Normal Resync 4%, <mm:ss> remain Stot4 Empty</mm:ss>	slot6 Empty	
	Slot1 Empty PCI module 11	Slot3 Empty	Slot5 Empty	Slot7 Empty	
	Slot0 279.4 GB Syncing (LUN 39/1) Resync 4%	Slot2 Empty	Slot4 Empty	Slot6 Empty	
	Slot1 Empty	Slot3 Empty	Slot5 Empty	Slot7 Empty	

Important

- If the system is rebooted during synchronization, the process cannot be completed. Do not restart the system until the synchronization is completed.
- When the system is halted without shutting down OS properly due to forced shutdown or others, the entire area of the partition on the synchronized disks will be resynchronized after the system is restarted.

Synchronization completed

		RDR	Utility
	DISK ACCESS LED	Op State: State	Status
Source disk	unlit (Lights green when accessing the disk drive)	Duplex	-
Destination disk	unlit (Lights green when accessing the disk drive)	Duplex	-
RDR Virtual Disk	_	Duplex	None

Tips

DISK ACCESS LED is lit green only when hard disk drive is accessed. If no access is made, the LED seems to be unlit.

RDR Utility (ft-SW : X.X.X.X)							
PCI module 10	Name		Value				
SCSI Enclosure	Device Path ID		20/1				
Slot 0 - Harddisk0-LUN1-PLEX0				ר			
- Slot 1	Op State: State		Duplex	J			
··· Slot 2	Op State: Reason Vendor		None Stratus				
- Slot 3	ProductID		Data Duplex	LUM			
- Slot 4	Product Revision Level		9	CLON			
- Slot 5 - Slot 6	SerialNumber			42d-421f-9f67-15c4	754755		
	Capacity		279.4 GB	+20-4211-3167-1304	+/01/2000		
PCI module 11	ObjectName		275.4 GB Harddisk()				
SCSI Enclosure	Caption		RDR Virtual	Diek 1			
Slot 0 - Harddisk0-LUN1-PLEX1	DevicePath[1]		10/40/1/0	DISK I			
- Slot 1	DevicePath[2]		11/40/1/0				
- Slot 2	ActiveRDRPlex			UN1-PLEX0			
- Slot 3	ReadLoadBalancing		On				
Slot 4	Resunct UNPriority		Nomal	_			
- Slot 5 - Slot 6	Status		None				
Slot 7	PCI module 10					ſ	\otimes
Logical Disk Information	Slot0 279.4 GB	Slot2		Slot4	Slot6	 1	-
RDR Virtual Disk 1	Duplex(LUN 3971)	Empty		Empty	Empty		
	Slot1	Slot3		Slot5	Slot7		
	Empty	Empty		Empty	Empty		
					ļ		
	PCI module 11						
	Slot0 279.4 GB	Slot2		Slot4	Slot6		°
	Duple× (LUN 39/1)	Empty		Empty	Empty		
	Slot1	Slot3		Slot5	Slot7	 	Ļ
	Empty	Empty		Empty	Empty		
						L	
	1	1		1	1		

(3) Data Disk Dual Configuration Procedure

Follow the procedure below to configure dual data disk for the slots 1 to 7.

Note

The following shows how to configure dual disk for the slot 1. If you want to configure the dual disk for slot 2 to slot 7, read "slot 1" as the slots you want to make dual configuration and perform the procedure.

1. Insert a disk for the dual configuration into the Slot 1 of PCI module 10.

If a disk is already mounted, this procedure is not necessary.

ImportantFor a disk to be inserted, use a new or physically formatted disk. If such a disk is not
used, disks are not duplexed successfully.As for physical format, see Chapter 3 (3.3 Physical Formatting of the Hard Disk
Drive) in Maintenance Guide.

When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

2. From Start Screen, select Administrative Tools and start Computer Management. On the tree in the left pane, click Disk Management.

If the inserted disk is indicated as Offline in the right pane, right-click the disk and make it online. After that, If the inserted disk is indicated as Not Initialized, right-click the disk again and initialize it.

🌆 Computer Management				-
File Action View Help				
🗢 🤿 🖄 🖬 🛛 🗊 🗩	V			
🜆 Computer Management (Local	Volume Layout	Type File System	Status	
🗸 🎁 System Tools	🖛 Simple		Healthy (Recov	very Partition)
> 🕒 Task Scheduler	- Simple			/stem Partition)
> 🛃 Event Viewer	- (C:) Simple	Basic NTFS	Healthy (Boot,	Page File, Crash Dump, Primary Partition)
> 👸 Shared Folders				
> & Local Users and Groups > N Performance				
N Performance A Device Manager	<			>
v 🔄 Storage				A
> Windows Server Backup	Disk 0 Basic			(C;)
Disk Management	279.38 GB	450 MB	300 MB	278.65 GB NTFS
> Services and Applications	Online	Healthy (Recove	Healthy (EFI Sy	Healthy (Boot, Page File, Crash Dum
		· · · · ·		
	"O Disk 1 Unknown 279,40 GB	Initialize Disk		
	Not Initialize	Offline		
		Properties		
	CD-RON DVD (D:)	Help		
	No Media			
				¥
< >	Unallocated	Primary partition		

Initialize Disk		×
You must initialize a disk before Logical Select disks:	Disk Manager can acce	ess it.
Use the following partition style for the s	selected disks:	
Use the following partition style for the s	elected disks:	
	selected disks:	
O MBR (Master Boot Record)		rersions of

When a disk is initialized, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

3. From Start Screen, click (1) and RDR Utility to start RDR Utility.

Tips

- If the inserted disk does not appear on the tree, from the menu of RDR Utility, select
 Action and click Refresh or press <F5> to update the display after a while.
 - The display of RDR Utility is not updated automatically. Therefore, update it every time after you perform disk operations described below.

5.

6.

4. On the left pane of the RDR Utility, right click on the **Slot 1** disk of **PCI module 10** and select **Create RDR Virtual Disk**.

Depending on the disk condition, RDR setting may take some time and RDR Utility may pause for a few minutes. There is no error, so wait until the process is completed.

	🗿 RDR Utility	(ft-SW: X.X.X.X)				
	File Action	Help				
	PCI module 10 SCSI Enclo		Name DevicePathID		Value 10/40/2/1	
		Harddisk0-LUN1-PLEX0	Op State: State		Online	
	··· Slot 2	Create RDR Virtual Disk			None SEAGATE	
	Slot 3 Slot 4	Add Physical Disk To RD	R Virtual Disk		ST300MP0005	
	Slot 5 Slot 6	Remove Physical Disk Fr			N003 S7K19S6V0000M6511SQV	
	Slot 7	Delete RDR Configuratio	on on Physical Disk		Harddisk1	
	SCSI Enclo	Clear Flaru WITDF			279.4 GB Unconfigured	
	Slot 0 - Slot 1		-i Di-l. F DDD Vi	atural Diala	Unknown 0	
	Slot 2 Slot 3	Resynchronize This Phys Set As Active RDR Plex	SICALDISK FIOTH KDK VI	rtudi Disk	Unknown	
	··· Slot 4		SSD Endurance(%)] 0	
	Slot 5 Slot 6					
	Slot 7 ⊡ Logical Disk In	formation	PCI module 10	- Inc	[a	las uz
	- RDR Virtua		Slot0 279.4 GB Duplex (LUN 39/1)	Slot2 Empty	Slot4 Empty	Slot6 Empty
			Slott 279.4 GB Online	Slot3 Empty	Slot5 Empty	Slot7 Empty
	I					
ck OK.				Create R	DR Virtual Disk This operation was complete	× ed.
	Important •	•	be unmounted		contains the systen setting the paging fi	
		Close or OK. The Step 7 after the	he system will system is reb	be auton ooted.	of the system is nee natically rebooted 2	minutes later. G
			-		t reboot automaticall system manually.	y but there is no

 Insert the disk to set dual configuration into the Slot 1 of PCI module 11. If a hard disk drive is already mounted, this procedure is not necessary.

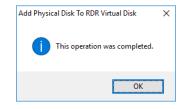
> Important For a disk to be inserted, use a new or physically formatted disk which has the same capacity as the synchronization source. If such a disk is not used, disks are not duplicated successfully. As for physical format, see *Chapter 3 (3.3 Physical Formatting of the Hard Disk Drive)* in *Maintenance Guide*.

When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

8. Right-click the **Slot 1** of the **PCI module 11** from the left pane of RDR Utility, and then click **Add Physical Disk To RDR Virtual Disk**.

🗿 RDR Utility (ft-S	W:X.X.X.X)					
File Action He	elp					
- Slot 1 - Hardd - Slot 2 - Slot 3 - Slot 4 - Slot 5 - Slot 5 - Slot 6 - Slot 7 ⊡ PCI module 11 È SCSI Enclosure	lisk0-LUN1-PLEX0 lisk1-LUN2-PLEX0 lisk0-LUN1-PLEX1	Name DevicePathID Op State: State Op State: Reason Vendor ProductID ProductRevisionLevel SerialNumber ObjectName Capacity ConfigState MTBF: HardNumberOFF		Value 11/40/2/2 Dnline None SEAGATE ST300MP00 N003 S7K19RCX0 Harddisk2 279.4 GB Unconfigured Unknown	000M6514FZY	
Slot 2 Slot 3 Slot 4 Slot 5 Slot 6	· · · · · · · · · · · · · · · · · · ·			known		
Slot 7 Logical Disk Inform RDR Virtual Dis RDR Virtual Dis	Clear Hard MTBF Clear Soft MTBF				Slot4 Empty	Slot6 Empty
	Resynchronize This P Set As Active RDR Ple	hysical Disk From RDR \ x	/irtual Disk		Slot5 Empty	Slot7 Empty
		PCI module 11 Slot0 279.4 GB Duplex (LUN 39/1)	Slot2 Empty		Slot4 Empty	Slot6 Empty
		Slott 279.4 GB Online	Slot3 Empty		Slot5 Empty	Slot7 Empty

9. Click **OK**.



10. Verify that disk synchronization has started and the status of the DISK ACCESS LED and RDR Utility display changes as the following table.

	DISK ACCESS LED	RDR Ut	ility
	DISK ACCESS LED	Op State: State	Status
Source disk	Blinking amber and green	Simplex (partition exists)	
Source disk	Green (Blinking)	Online (no partition exists)	_
Destination disk	Blinking amber and green	Syncing	_
RDR Virtual Disk	_	Simplex	Resync x % (x=0,4,8,…96)

Synchronizing

Tips

DISK ACCESS LED is lit green when hard disk drive is accessed.

If access is made while synchronization is in progress (LED is blinking amber), it seems that the green and amber LEDs are lit alternately.

 The time required for synchronization varies depending on the partition size on the disk.

For a 279 GB partition, it takes about 160 minutes. When no partition exists on the disk, synchronization is completed immediately after the RDR is set, and **Op State: State** changes to **Duplex**.

However, when the dynamic disk is used, the time required for synchronization depends on the disk size regardless of whether or not a partition exists. For a 279 GB disk, it takes about 160 minutes.

PCI module 10	Name		Value		
Slot 0 - Harddisk0-LUN1-PLEX0	DeviceFatriD Op State: State		35/2 Simplex		
Slot 1 - Harddisk1-LUN2-PLEX0			Simplex		
··· Slot 2	Vendor		Stratus		
Slot 3	ProductID		Data Duplex LUN		
··· Slot 4	ProductRevisionLevel		9		
- Slot 5 - Slot 6	SerialNumber		5 f3b4aec3-ca23-4347-8d0f	LL4LC0J-7040	
Slot 6	Capacity		279.4 GB	001003067340	
PCI module 11	ObjectName		Harddisk1		
SCSI Enclosure	Caption		RDR Virtual Disk 2		
Slot 0 - Harddisk0-LUN1-PLEX1	DevicePath[1]		10/40/2/1		
Slot 1 - Harddisk1-LUN2-PLEX1	DevicePath[2]		11/40/2/1		
··· Slot 2	ActiveRDRPlex		Harddisk 1-LUN2-PLEX0		
Slot 3	ReadLoadBalancing		On		
··· Slot 4	Resyncton Phone		Normal		
··· Slot 5	Status		Resync 0%		
Slot 6 Slot 7					
Slot 7 Slot 7 Slot 7 Slot 7 Slot 7	PCI module 10				 0.
	Slot0 279.4 GB Duplex (LUN 39/1)	Slot2	Slot4	Slot6	Ū.
		Empty	Empty	Empty	0 F 0 I
- RDR Virtual Disk 1					
- RDR Virtual Disk 1	Slot1 279.4 GB	Slot3	Slot5	Slot7	 l Ir
- RDR Virtual Disk 1	Slott 279.4 GB Online (LUN 39/2)	Slot3 Empty	Slot5 Empty	Slot7 Empty	
- RDR Virtual Disk 1	Slot1 279.4 GB				
- RDR Virtual Disk 1	Slott 279.4 GB Online (LUN 39/2) <u>DO NOT REMOVE</u>				
- RDR Virtual Disk 1	Slott 279.4 GB Online (LUN 39/2)				
- RDR Virtual Disk 1	Slott 279.4 GB Online (LUN 33/2) <u>DO NOT REMOVE</u> PCI module 11	Empty	Empty	Empty	
- RDR Virtual Disk 1	Slot1 279.4 GB Online (LUN 39/2) DO NOT REMOVE PCI module 11 Slot0 279.4 GB	Empty Slot2	Empty Slot4	Empty Slot6	
- RDR Virtual Disk 1	Slotti 279.4 GB Online (LUN 33/2) <u>DO NOT REMOVE</u> PCI module 11 Slotti 279.4 GB Duplex (LUN 33/1)	Empty Slot2 Empty	Empty Slot4 Empty	Empty Slot6 Empty	
- RDR Virtual Disk 1	Slot1 279.4 GB Online (LUN 39/2) DO NOT REMOVE PCI module 11 Slot0 279.4 GB	Empty Slot2	Empty Slot4	Empty Slot6	

Important

If the system is rebooted during synchronization, the process cannot be completed. Do not restart the system until the synchronization is completed.

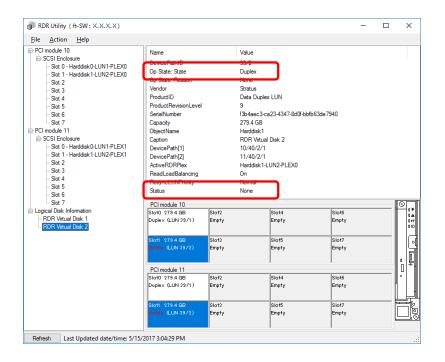
• When the system is halted without shutting down Windows properly due to forced shutdown or others, the entire area of the partition on the synchronized disks will be resynchronized after the system is restarted.

	DISK ACCESS LED	RDR Ut	ility
	DISK ACCESS LED	Op State: State	Status
Source disk	unlit (Lights green when accessing the disk drive)	Duplex or Online	_
Destination disk	unlit (Lights green when accessing the disk drive)	Duplex or Online	_
RDR Virtual Disk	_	Duplex	None

Synchronization completed

Tips

DISK ACCESS LED is lit green only when hard disk drive is accessed. If no access is made, the LED seems to be unlit.



3.10 **Creating Volume**

For NEC Express5800/ft series, you need to set mirroring for each disk by the RDR function. If you created a new partition or volume on the disk that has been set RDR and dual configuration, the area is mirrored automatically. You do not need to perform mirroring for each partition or volume.

> A mirrored volume (RAID-1) or RAID-5 volume cannot be used on a dynamic disk. When a mirrored volume (RAID-1) or RAID-5 volume was built on a dynamic disk, the Important System FT LED and Safe To Pull LED indicating the status of the ft server may not be displayed correctly, and information of duplex and simplex status of the PCI module may not be output to the event log properly. If you are going to use a dynamic disk, convert only a data disk to a dynamic disk and build as a simple volume, spanned volume, or striped volume.

3.11 Installing Bundled Software for the Server

NEC ESMPRO Agent and NEC ESMPRO Manager are contained in EXPRESSBUILDER.

Make sure that the installed utilities are shown on Start Screen - **D** - All Programs screen. If you did not install these utilities during setup with EXPRESSBUILDER, install them individually by according to Chapter 2 (Installing Bundled Software).

3.12 Enabling OS Boot Monitoring Feature

Enables OS Boot Monitoring feature.

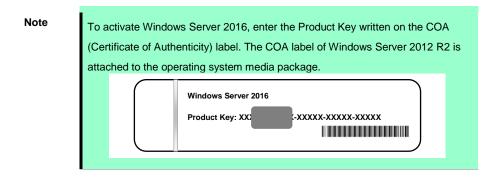
Set OS Boot Monitoring feature to Enabled on BIOS SETUP according to Chapter 1 (3.1.3 Disabling OS Boot Monitoring Feature). Then, specify the timeout time for OS Boot Monitoring Timeout parameter appropriately.

Specify the timeout time in seconds. Default setting is 600 seconds (10 minutes).

	aptio Setup Utility – d Security Server E		erican Megatrends, Inc.
Option ROM Scar Option ROM Scar OS Boot Monitor OS Boot Monitor POST Pause Mon:	Configuration Iguration Monitoring Timeout Monitoring Timeout Monitoring Timeout ing Timeout itoring Timeout	[Enabled]	
			F1: General Help F4: Save & Exit Setup ESC: Exit

3.13 License Authentication

You need to activate Windows Server 2016 to use it. Follow the steps below to check if your operating system has been activated and perform the activation as needed.



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

Programs and Features			
Power Options			
System			
a de la companya de la compa			
- Network Connections			
Disk Management			
Computer Management			
Command Prompt			
Command Prompt (Admin)			
Task Manager			k.
Control Panel			
File Explorer			
Search			
Run			
Shut down or sign out			

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

See also		iption: WORKGROUP nternet to activate Windows. Reac the Mic	rosoft Software License Terms		
Security and N	faintenance Product ID: 0000	0-00000-00000-00000	Activate Windows	~	
🖬 ዶ n n n n n n n n n n n n n n n n n n				. 11:43 AM	

3. Click Activate Windows.

	Windows activation		
See also	Connect to the Internet to activate Windows. Read the Microsoft	Software License Terms	
Security and Maintenance	Product ID: 00000-00000-00000	Activate Windows	<

4. Perform license authentication.

Settings		- 0	×
Ø Home	Windows		
Find a setting	Edition Activation	Windows Server 2016 Standard Unable to reach Windows activation servers Learn more	
C Windows Update	Product Key	XXXXX-XXXXX-XXXXX-XXXXX	
Windows Defender	Activate	Windows now	
⑦ Recovery	To install a ne	w product key, select change product key.	
Activation	Change	product key	
H For developers	If you're havir try and fix the	g problems with activation, select Troubleshoot to problem.	0
	C Troubles	hoot	

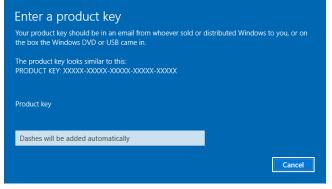
- □ When connected to Internet: Click Change product key. Complete license authentication process according to the message.
- □ When not connected to the Internet: Go to Step 5.
- 5. Perform License Authentication via telephone.
 - Go to the next step, which differs depending on the installation media you used. : Go to Step 6.
 - □ Backup DVD-ROM
 - □ Windows Server 2016 DVD-ROM
 - Product key has been input : Go to Step 9.
 - Product key has not been input : Go to Step 6.
- 6. Right-click the left bottom of screen, and click Run from the menu displayed.

	Task Manager	
	Control Panel	
	File Explorer	
	Search	
	Run	
	Shut down or sign out >	
-	P 🗆 렪 🚍	

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

💷 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]	
• <i>></i>	ר 🔁 📜 🖾		

8. You need to replace product keys. Input a product key on the following screen.



9. Right-click the left bottom of screen, and click Run from the menu displayed.

Task Manager	
Control Panel	
File Explorer	
Search	
Run	
Shut down or sign out >	
오 따 💪 🗎	

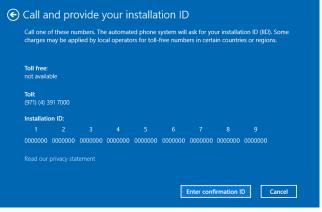
10. Type "slui 4", and then press the <Enter> key.

🖅 Run		×
٨	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.	
<u>O</u> pen:	slui 4 🗸 🗸	
	This task will be created with administrative privileges.	
	OK Cancel <u>B</u> rowse]
۶ ا	D []] 🤶 📻 📨	

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

Afghanistan	~	
		Next Cance

Acquire the installation ID required for license activation.



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

Enter your confirmation ID The automated phone system will tell you what to enter.								
А	В	с	D	E	F	G	н	
				r				,
					Activate Wi	indows	Cancel	

This completes authentication.

3.14 Confirming the ft Server Control Software Version

Perform the procedure when you need to check the ft Server Control Software version of the current system before adding devices to NEC Express5800/ft series or updating ft Server Control Software.

Confirm the version following the steps below, and take a note of the displayed version number.

Version: ____.__.

- 1. Sign in to the system with an account that has administrator privilege.
- 2. Open Control Panel from the Start screen.
- 3. Open Programs and Features.

If the **Programs and Features** icon is not displayed, open **Programs** and click **Programs and Features**.

4. Check the version of **ft Server Control Software** from the list of programs.

3.15 Setting TCP/IP Timeout

Timeout values of TCP/IP are changed at setup by adding the following registries on Express5800/ft series.

HKLM\System\CurrentControlSet\Services\Tcpip\Parameters

Value: TcpMaxDataRetransmissions

Type: REG_DWORD

Default: 8

This setting is required if Hyper-V is enabled.

If you are not using Hyper-V on your server, this setting is not required. To restore the factory-set value, run the following batch file with administrator account, and restart the server.

C:\Program Files\NEC\HAS_SW\SUPPORT

SetTcpMaxDR_OsDef.bat

To restore the factory-set value, run the following batch file with administrator account, and restart the server.

C:\Program Files\NEC\HAS_SW\SUPPORT

ResetTcpMaxDR_FtDef.bat

3.16 Setting up status notification function of ft server

Express5800/ft server monitors duplexing status of ft server with ESMPS service, and outputs the status to event log. Change the settings for monitoring ft server status depending on your server operation.

Note When you change setting by the following procedure, ESMPS service is restarted. At two cases, system event log of ESMFTPolicy is registered with ESMPS starting.
1. When endurance of SSD is in critical range, the event of ID:1103/1113 is registered.
2. When module or PCI module is simplex state, the event of ID:2050 is registered.

3.16.1 Event log registration setting while SSD needs to be replaced

ESMPS service of R320f monitors endurance of SSD installed on ft server. You can change the setting to either register to event log only once when the endurance is short (less than 10%), or register to event log every day until the target SSD is replaced.

This event log is target of Express report service / Express report service (HTTPS). In case of registering to event log every day, thus there is concern incurring communication fee or stress to the system because report will be sent every day. Therefore **Register to event only once** is selected by default.

In case you are doing maintenance and operation management by yourself, without using Express report service/Express report service (HTTPS), it is recommended to change the setting to the process number 1(When SSD needs to be replaced: Change to "Register to event every day") in the step 3 in procedures to change continuous notification setting of alert status of ESMPS service. It enables you to replace the SSD before it becomes unwritable because of its endurance.

To revert the setting to its default, execute process number 2 in the step 3 below.

Note

If you do not use SSD, endurance of disk will not be monitored, thus you do not need to change this setting.

(Procedures to change continuous notification setting of alert status of ESMPS service)

- 1. Sign in with an account that has Administrator role.
- 2. Execute ESMPS_AlertRemind.BAT in C:\Program Files\ftsys\Utility, and press any key to continue the process after the message shown below is displayed.

This batch file changes the setting of the status notification function of the ft server. When stopping change, please click a close box [x] in the upper right of this window.

Press any key to continue...

- 3. Input desired process number $(1 \sim 6)$ following the message.
- ESMPS service will be restarted to reflect the setting. Press any key after the message shown below is displayed to back to the message display in step 3.

Enable SSD AlertRemind setting has been completed.

Press any key to continue...

5. When setting is completed, execute process number 7 to quit the batch. It is not necessary to restart the system to apply this module.

3.16.2 Event log registration setting while module continues simplex status

ESMPS service of R320f is set to register that module continues simplex status to event log every day to prevent system failure caused by malfunctions of multiple parts.

Though it is not recommended for stable duplexing operation of the system, if you want to change the setting not to register to the event log every day, but to "Register to event only once", execute process number 4(When CPU simplex status continues: Change to "Register to event only once") and process number 6(When PCI simplex status continues: Change to "Register to event only once") in the step 3 in Procedure to change continuous notification setting of alert status of ESMPS service below.

To revert the setting to its default, execute process number 3 and 5 in the step 3 below.

(Procedure to change continuous notification setting of alert status of ESMPS service)

- 1. Sign in with an account that has Administrator role.
- 2. Execute ESMPS_AlertRemind.BAT in C:\Program Files\ftsys\Utility, and press any key to continue the process after the message shown below is displayed.

```
This batch file changes the setting of the status notification function of the ft server. When stopping change, please click a close box [x] in the upper right of this window.
```

Press any key to continue...

- 3. Input desired process number $(1 \sim 6)$ following the message.
- ESMPS service will be restarted to reflect the setting. Press any key after the message shown below is displayed to back to the message display in step 3.

Disable CPU AlertRemind setting has been completed.

Press any key to continue...

5. When setting is completed, execute process number 7 to quit the batch. It is not necessary to restart the system to apply this module.

3.17 Checklist Display Function at Installation

The server has a factory-installed feature that displays Setup Checklist during installation to support configuration work. This feature starts after ft Server Control Software is installed at re-installation.

Using this checklist, you can proceed to setup work while viewing the items required for setup.

(1) Displaying setup list

When you sign in the system with built-in Administrator account, **ft Server Setup list** automatically appears. The checklist appears every time you sign in the system unless you specify not to display at next sign in.

The first line of dialog shows the version of ft Server Control Software. The version number depends on the time of shipment and software upgraded status.

🚇 ft Server Setup list	-		×
ft Server Control Software [Version : 11		o complete	
1. Install NEC ESMPRO Agent			
2. Install Options (LAN, SAS, Fibre Channel board)			
3. Update Software			
4. Configure duplex LAN			
5. Configure dual Disk			
6. Create Volume			
7. Change setting of SNMP service for NEC ESMPRO Age	ent		
8. Enable OS Boot Monitoring			
9. Setup for Solving Problems			
10. Setting up status notification function of ft server			
11. Back up System Information			
- If Symantec pcAnywhere is installed, system may not operate for example, system may not become duplex.	normally	r.	
 When Arcserve Backup or Backup Exec is installed, if the se these backup softwares have started before system become system may not become duplex or the backup software may normally. 	s duplex,		
This dialog is displayed also at next logon until all checkbox is checked.		History	/

Setup Check List

The following item is checked automatically, and if installation of it is finished, it is dimmed.

1. Install NEC ESMPRO Agent

For the other items, click the checkbox to check it when you have finished setup of relevant item.

If you put a mouse onto check item, a help window that shows the page where detailed information is described in User's Guide or Installation Guide.

If all items are checked, a checkbox "Hide this dialog at next logon" appears at bottom of dialog. If you do not want to display this checklist, click the checkbox and close dialog.

避 ft Server Setup list 🛛 —		×
ft Server Control Software [Version : 11. [11] was installed. Refer to the Installation guide (Windows), follow the procedures below setup. And check the following checkbox.	to complete	
☑ 1. Install NEC ESMPRO Agent		
2. Install Options (LAN, SAS, Fibre Channel board)		
☑ 3. Update Software		
✓ 4. Configure duplex LAN		
✓ 5. Configure dual Disk		
G. Create Volume		
7. Change setting of SNMP service for NEC ESMPRO Agent		
8. Enable OS Boot Monitoring		
9. Setup for Solving Problems		
10. Setting up status notification function of ft server		
✓ 11. Back up System Information		
- If Symantec pcAnywhere is installed, system may not operate norma for example, system may not become duplex.	ly.	
 When Arcserve Backup or Backup Exec is installed, if the services these backup softwares have started before system becomes duple system may not become duplex or the backup software may not ope normally. 	х,	
Setup is completed. If you do not want to show this dialog at next logon, please check the following checkbox.	History	,
Hide this dialog at next logon.	Close	

When all items are checked:

This checklist is not displayed during update of ft Server Control Software.

(2) Re-displaying setup checklist

If you want to open the dialog again, sign in the system with built-in Administrator account, and run the following file.

C:\Program Files\NEC\HAS_SW\ftServerSetuplist

ftServerSetupList.exe

Only the user having built-in Administrator account can open this checklist, and can start only one at a time.

(3) Displaying check history

Click the History button to confirm the date and time each item was checked.

🚑 Hi	story	_		\times
No 01 02 03 04 05 06 07 08 09 10 11	Date 4/24/2017 1:24:0 4/24/2017 1:31:4 4/24/2017 1:33:4 4/24/2017 2:04:0 4/24/2017 2:04:0 4/24/2017 3:09:3 4/24/2017 3:34:4 4/24/2017 4:01:5 4/24/2017 4:17:0	1 PM 9 PM 7 PM 6 PM 1 PM 0 PM 7 PM	Check ON (Auto) ON ON ON ON ON ON OFF(Initia OFF(Initia	u)
<				> ~
			Clos	se

Check history

Check column displays:

ON:	Item that was checked
ON (Auto):	Item that was checked automatically
OFF (Initial):	Item that is not checked yet
OFF:	Item that was checked once but unchecked later

3.18 Caution when changing Power Options

On the Windows Server 2016 model of this server, the display may be unable to recover from the state of blank screen after setting the display to switch off after a certain time. For this reason, the display's power is configured not to switch off automatically by default (at the time of shipment or re-installing from EXPRESSBUILDER).

When changing the settings to switch off automatically after a certain time, set the display resolution to any value from the **Change display settings** window, then change the power options. Once changing the display's resolution settings, it is not necessary to change the settings again even if after restarting the system.

Tips

If the display is already unable to recover from the state of blank screen, see *Chapter 1* (8.7 *Problem of OS Operation*) in Maintenance Guide.

(1) Procedure to configure display resolution

- 1. Sign in to an account with administrator priveledges.
- 2. Open the Control Panel from the Start menu.
- 3. Select Appearance and Personalization.
- 4. Select Display.
- 5. Select Change display settings from the left panel.

🛄 Display				-		×
← → × ↑ 🗔 > Control Par	el $$ > Appearance and Personalization $$ > Display $$ \sim	Ō	Search Contro	l Panel		٩
Control Panel Home	Change size of items					0
Change display settings Calibrate color Adjust ClearType text	enlarge a portion of your screen, use <u>Magnitur</u> . It netther of these makes the changes you want, y prate color can <u>set a custom scaling level</u> (not recommended). Setting custom levels can lead to unexpected behavior on scree display.					
	Change only the text size Instead of changing the size of everything on the desktop, o	hange	e only the text siz	e for a s	pecific it	em.
	Title bars V 9 V Bold					
					Apply	

6. The display customization window will appear. Open Advanced display settings.

Settings	- 0 ×
⊗ Home	Customize your display
Find a setting ,0	
System	1
🖵 Display	
IE Apps & features	
15 Default apps	Identify Detect
Notifications & actions	Change the size of text, apps, and other items: 100% (Recommended)
O Power & sleep	I
🗢 Storage	Orientation
-B Tablet mode	
D Multitasking	Apply Cancel
Apps for websites	Advanced display settings

7. Open **Display adapter properties** from Related settings at the bottom of Advanced display settings screen.

← Settings	-	0	×
Advanced display settings			
Resolution			
1024 × 768 \checkmark			
Apply Cancel			
Color settings			
Color management			
Color calibration			
Related settings			
ClearType text			
Advanced sizing of text and other items			
Display adapter properties			

8. Open List All Modes from the Adapter tab.

Generic Non-	PnP Monitor and Strat	us Virtual Pilot3 Video Prope	rties X
Adapter T	nitor Color Managemen ype ratus Virtual Pilot3 Video		
DAC Type: Adapter St	formation MGA G200 Mga Internal DA ring: Stratus MGA Virt nation: Stratus Embeddi	ual Video	
Dedicated System Vid	able Graphics Memory: Video Memory: leo Memory: stem Memory:	3912 MB 0 MB 0 MB 3912 MB	
List All r		X Cancel	Apply

9. A list of all available modes will be displayed. Select an item suitable for the display to be used.

	24, True Colo	32 bit), 64 Her r (32 bit), 64 H	lertz	
1440 by 90	0, True Color	(32 bit), 64 H (32 bit), 64 He	ertz	
1024 by 76	8, True Color	(32 bit), 64 He (<u>32 bit), 64 He</u>	ertz	
1280 by 80	0, True Color	(32 bit), 64 He	ertz	

If you do not need to change the setting from the one currently selected, click **Revert** after choosing a different setting.

The refresh rate of each resolution in the list of valid modes is 64 Hz, but the actual configured value will be 60 Hz.

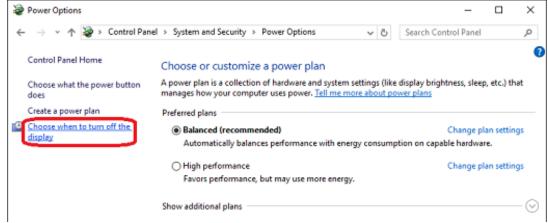
Also, if changing the display resolution for the first time, you may see a warning pop up message pertaining to admin privileges. If this message appears, you can click the **OK** button to close it.

However, when you close the pop up message, the configuration is not set to the resolution you selected before the message appeared, so you will need to reopen **List All Modes** from the Adapter tab and configure the resolution.

(2) Procedure to change Power Options

- 1. Sign in to an account with administrator privileges.
- 2. Open the Control Panel from the Start menu.
- 3. Select System and Security.
- 4. Select Power Options.

5. Select Choose when to turn off the display from the left panel.



6. Select the desired amount of time before the display's power is turned off, and save your changes.

🦃 Edit Plan Set	tings						-	×
← → * ↑	🛯 🍃 « Hardware > Powe	er Options > Edit Plan Setti	ngs	~	õ	Search Contr	ol Panel	Q
	Change settings for t	he plan: Balanced						
	Choose the sleep and displa	ay settings that you want yo	ur computer to use.					
	Turn off the display:	Never ~						
	Change advanced power se Restore default settings for	1 minute 2 minutes 3 minutes 5 minutes 10 minutes 15 minutes 20 minutes						
		25 minutes 30 minutes 45 minutes 1 hour		Save	chan	ges Can	cel	
		2 hours 3 hours 4 hours						
		5 hours Never						

4. Setting Up Windows Server 2012 R2

Set up Windows Server 2012 R2.

4.1 Before Starting Setup

4.1.1 Precautions

Read through the cautions explained here before starting setup.

OS	: Setup with Windows standard installer

BIOS	BIOS settings				
		Change Boot Mode to UEFI Mode. See Chapter 3 (1. System BIOS) in Maintenance Guide for details. Boot \rightarrow Boot Mode \rightarrow UEFI			
EB	OS	Note The [Boot Mode] setting is set to [UEFI] when [Load Setup Defaults] in BIOS S Utility (SETUP) is executed.		n BIOS Setup	
		Change Boot Mode to XHCI Mode. See Chapter 3 (1. System BIOS) in Maintenance Guide for details. Boot \rightarrow Advanced \rightarrow USB Configuration \rightarrow XHCI Mode \rightarrow Auto			
EB	OS	Note	The [XHCI Mode] setting is set to[Auto]when [Load Setup Defaults] in Utility (SETUP) is executed.	n BIOS Setup	
			open Boot Option Priorities in BIOS Setup Utility to make sure that t Windows Boot Manager is specified for optical disk drive.	he higher	
		Example	e of correct setting		
		[Boot]–[Boot Option Priorities]		
			ot Option #1 [UEFI: Optical Disk Drive]		
			ot Option #2 [Windows Boot Manager]		
		→	The system is booted from the OS installation media.		
		Example	of incorrect setting		
EB	OS	[Boot	·] - [Boot Option Priorities]		
		-	Boot Option #1 [Windows Boot Manager]		
		-	Boot Option #2 [UEFI: Optical Disk Drive]		
		\rightarrow The system is not booted from the OS installation media			
BIOS Setup Utility. If Windows Boot Ma 		Note	 Be sure to insert OS installation disc into optical disk drive befor BIOS Setup Utility. If Windows Boot Manager is not displayed in Boot Option Prior need not to confirm the boot priority. 		

	ware co	onfiguration					
The fo	ollowing	hardware configu	urations require special procedures.				
EB	OS	LTO and similar media Do not set media that is unnecessary to installation during setup.					
B Setup when mass memory is installed If mass memory is installed in your system, the large size of paging file is require partition size for storing debug information (dump file) may not be secured.				on. Thus, th			
		required for stor 1. Set the 2. Specify	ure the dump file size, use Windows standard installer for setup, and allocate the fing the dump file to other hard disk drives by performing the following steps. system partition size to a size sufficient to install the OS and paging file. another disk as the destination to store the debug information (required dump g to <i>Chapter 1 (6. Setup for Solving Problems)</i> .	·			
		If the hard disk drive does not have enough space to write the dump file, set the partition size to a size sufficient to install the OS and paging file, and then add another hard disk drive for the dump file. Note If the partition size for installing Windows is smaller than the size to install the OS and paging file, expand the partition size or add another hard disk drive.					
		If sufficient spac Windows is com	e cannot be secured for the paging file, perform either of the following after set aplete.	tting up			
		for collec Create a p drive. The pa is used paging	a hard disk drive other than the system drive as the location to store the cting memory dump. paging file of the installed memory size + 400 MB or more in a drive other than aging file that exists in the first drive (in the order of drive letter C, D, E,) d as the temporary memory dump location. Therefore, the size of the file must be "installed memory size + 400 MB" or more. Paging files in				
		restarti	ic volumes are not used for dumping memory. The setting is applied after ing the system.				
			No paging file exists Paging file whose size is "installed memory size + 400 MB" or more				
		→	The paging file in drive D can be used for collecting memory dump because its size is "installed memory size + 400 MB" or more.				
		Exam	ple of incorrect setting 1				
		C.	Paging file whose size is smaller than the installed memory size				
			Paging file whose size is "installed memory size + 400 MB" or more				

		Example of incorrect setting 2			
		C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is 400 MB			
		→ The total paging file size in all drives is "installed memory size + 400 MB", but collection may fail because only the paging file in drive C is used for collecting memory dump.			
		Example of incorrect setting 3			
		C: No paging file exists D: Paging file whose size is "installed memory size + 400 MB" or more (in dynamic volume)			
		→ Paging files in a dynamic volume cannot be used for collecting memory dump. Thus, collecting memory dump fails.			
		 Specify a drive other than the system drive for "Dedicated Dump File". 			
		Create the registry shown below by using the Registry Editor and specify the name of Dedicated Dump File.			
		<when "dedicateddumpfile.sys"="" d="" drive="" file="" in="" named="" specifying="" the=""></when>			
		Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name: DedicatedDumpFile Type: REG_SZ Data: D:\dedicateddumpfile.sys			
		 Note the following when specifying Dedicated Dump File: Pay strict attention to edit the registry. The setting is applied after restarting the system. Specify a drive that has free space of "installed memory size + 400 MB" or more. Dedicated Dump File cannot be placed in dynamic volumes. 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. 			
Syste	m parti	ition size			
EB	OS	The system partition size can be calculated by using the following formula.			
CD		OS size + paging file size + dump file size + application size + duplicated dump file sizeOS size= 9,200MBPaging file size (recommended)= installed memory size × 1.5Dump file size= installed memory size + 400MBApplication size= as required by the applicationDedicated Dump File size (default)=8,193MB			
		For example, if the installed memory size is 1 GB (1,024 MB) and application size is 100 MB, and Full Installation is selected, the partition size is calculated as follows:			
		9,200MB + (1,024MB × 1.5) + 1,024MB+ 400MB+ 100 MB + 8,193MB = 20,453MB			
		The above mentioned partition size is the minimum partition size required for system installation. Ensure that the partition size is sufficient for system operations.			

•.	n sizes are recommended. a GUI : 32,768 MB (32 GB) or more 24 MB
Note If the partition size for or add another hard	 The above paging file size is recommended for collecting debug information (dump file). The initial size of the Windows partition paging file must be large enough to store dump files. Make sure you set a sufficient paging file size. If the paging file is insufficient, there will be a virtual memory shortage that may result in an inability to collect correct debug information. Regardless of the sizes of installed memory and write debug information, the maximum size of the dump file is "size of installed memory + 400 MB". When installing other applications or other items, add the amount of space needed by the application to the partition.
Tips	When new partition is created, Windows OS creates the following partitions at
	 the top of hard disk drive. Recovery Partition: 300 MB EFI System Partition (ESP): 260 MB *1 Microsoft Reserved Partition (MSR): 128 MB *2 528 MB is allocated for these three partitions out of the specified partition size. For example, when 61,440 MB is specified for partition size, the area available free area is calculated as follows: 61,440MB - (300MB + 260MB + 128MB) = 60,752MB
	Recovery partition (300MB) EFI system partition (ESP) *1 (260MB)
	*1 100 MB in size depending on hard disk drive type. *2 MSR is not displayed on Disk Management

If you compress the root directory and the Windows directory, operational stability cannot be ensured because the Windows File Protection (WFP) may replace an unassigned driver with a signed driver.				
Refer to <i>Chapter 1 (4.8 Duplex LAN Configuration)</i> for the procedure of NIC teaming in Windows Server 2012 R2.				
Support for Storage spaces and thin-provisioning in Windows Server 2012 R2				

4.1.2 Preparation

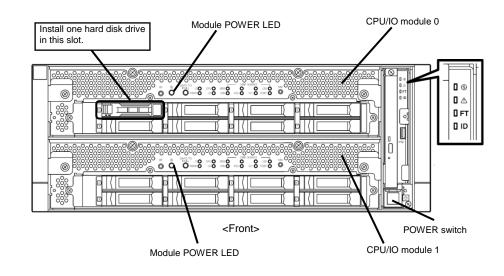
The following steps are required to prepare for re-installing an OS (setup with EXPRESSBUILDER or Windows standard installer):

- 1. When the module POWER LED on CPU/IO module is on, shut down the OS.
- 2. Unplug the power cord from outlet while the module POWER LED is blinking.
- 3. Perform the preparation process for the server as shown below.
 - Install CPU/IO modules 0 and 1.
 - Install one hard disk drive in slot 0 of CPU/IO module 0 only.
 - Disconnect all LAN cables.
 - Disconnect the cable for tape device from the connector on SAS board.
 - Disconnect the cable for device from the connector on Fibre Channel board.

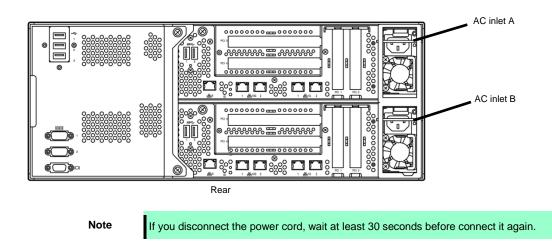
Important If the hard disk drive is not a new one, physically format it. See *Chapter 3 (3.3 Physical Formatting of the Hard Disk Drive)* in *Maintenance Guide* for physical formatting.

4. Confirm that the hard disk drive is installed correctly.

Install only one hard disk drive in CPU/IO module 0. Do not install any hard disk drive in CPU/IO module 1.



- 5. Connect power cords to the server in the following order.
 - (1) Connect a power cord to AC inlet A.
 - (2) Connect a power cord to AC inlet B.
 - (3) Make sure that POWER LED on each module is blinking green.



4.1.3 Disabling OS Boot Monitoring Feature

The following steps are required for installing/re-installing Windows:

Important	The factory setting of [OS Boot Monitoring] is enabled. If you proceed without change, the setup fails.
Tips	For details of operations for BIOS Setup Utility and parameters for boot monitoring function, see <i>Chapter 3 (1. System BIOS)</i> in <i>Maintenance Guide</i> .

1. Turn on the display and peripherals connected to the server.

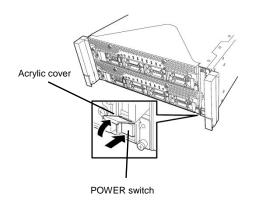
Note

If the power cords are connected to a power controller like a UPS, make sure that it is powered on.

- 2. Remove the front bezel.
- 3. Press the POWER switch located on the front side of the server.

Lift the acrylic cover, and press the POWER switch.

Important Do not turn off the power before the "NEC" logo appears.



After a while, the "NEC" logo will appear on the screen.

Tips	While the "NEC" logo is displayed on the screen, NEC Express5800/ft series performs a power-on self test (POST) to check itself. OS starts upon completion of POST.For details, see <i>Chapter 3 (1.1 POST Check)</i> in <i>User's Guide</i>.
Note	If the server finds errors during POST, it will interrupt POST and display the error message. See Chapter 1 (6.2 POST Error Messages) in Maintenance Guide.

4. When POST proceeds, the following message appears at lower left of the screen.

Press <F2> SETUP, ... (The on-screen message depends on your system environment.)

If you press <**F2**>, SETUP will start after POST, and the Main menu appears. (You can also start SETUP by pressing <**F2**> key while expanding option ROM.)

Example:

Aptio Setup Utility – Main Advanced Security Server	- <mark>Copyright (C) 2014 American ⊨</mark> Boot Save & Exit	Wegatrends, Inc.
BIOS Information BIOS Version Build Date Access Level UEFI Spec Version	8.0:38 03/30/2015 16:11:45 Administrator 2.3.1	Set the Date. Use Tab to switch between Date elements.
Memory Information Total Memory	16384 MB	
System Date System Time	[Wed 04/22/2015] [09:51:23]	
		F1: General Help F4: Save & Exit Setup ESC: Exit
Version 2.16.1243n C	opyright (C) 2014 American Meg	atrends, Inc.

5. When you move the cursor onto Server, the Server menu appears.



- 6. Move the cursor onto **OS Boot Monitoring** and press Enter.
- 7. Among the parameters, choose **Disabled** and press Enter.
- 8. Move the cursor onto Save & Exit, the Save & Exit menu appears.



9. Select Save changes and Exit.

On the confirmation window shown below, select Yes to save parameters and exit SETUP.

System reboots when SETUP completes.

Save configuration and exit?	
[Yes]	No

Now OS Boot Monitoring function is disabled.

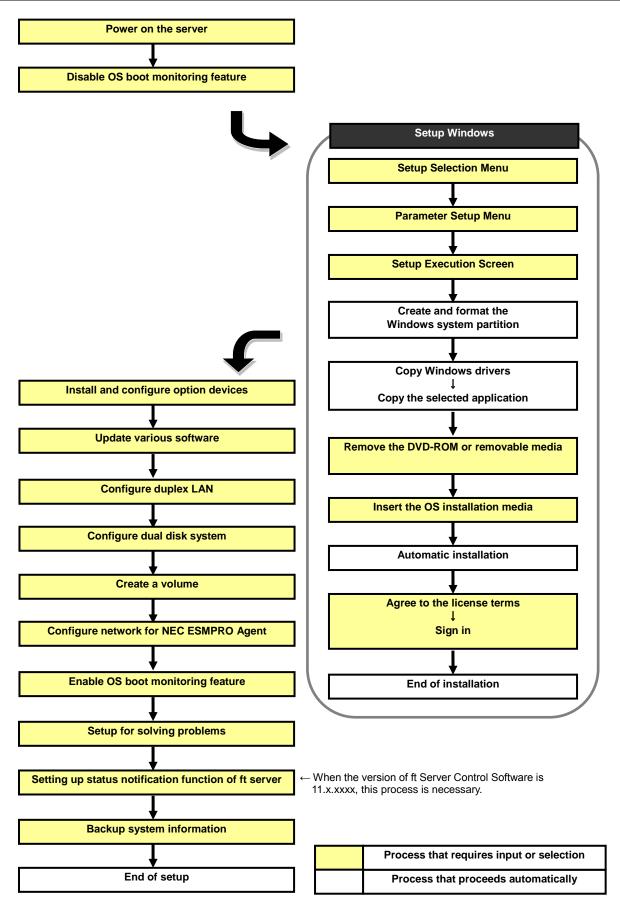
4.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

Important	 Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: Partition Settings Backing up user data, as needed, is recommended. Before starting setup, be sure to disconnect hard disk drives that are not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup. Although some dialog boxes and popup windows are displayed during installing ft Server Control Software in Setup, do not operate from the keyboard and the mouse. Installation is continued automatically. Do not operate especially although the following dialog is displayed. When installation is stopped with operation of a keyboard or a mouse, there is a possibility that OS does not start normally. Microsoft Windows You must restart your computer to apply these changes Before restarting, save any open files and close all programs. Restart Now Restart Later
Note	The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP function may affect the system performance. Contact your sales representative for details.
Tips	 Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media. For details on creating a parameter file, see <i>Chapter 1 (7. Windows OS Parameter File)</i>.

108 Express5800/R310e-E4, R320e-E4, R320e-M4, R310f-E4, R320f-E4, R320f-M4 Installation Guide (Windows)

4.2.1 Setup flow



4.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- > Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as *Windows Server 2012* R2 DVD-ROM)
- > EXPRESSBUILDER DVD
- > ft Server Control Software UPDATE media

Used to update ft Server Control Software. This might not be provided with your server.

> Prepare if needed:

Removable media for Windows OS parameter file

ft Server Control Software update module

See Chapter 1 (4.7.1 Applying ft Server Control Software Update Module) for more information.

4.2.3 Before setting up

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

Note

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

4.2.4 Setup procedure

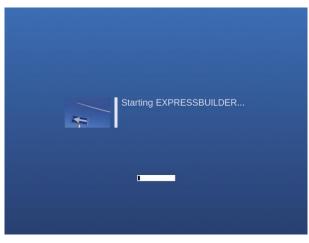
- 1. Prepare for setup according to Chapter 1 (4.1.2 Preparation).
- 2. Be sure to disable OS Boot Monitoring feature according to *Chapter 1 (4.1.3 Disabling OS Boot Monitoring Feature)*.

Important OS Boot Monitoring feature is enabled by the shipping default. Setup process will fail if this feature is enabled.

- 3. Turn the display unit power on, and then turn the server power on.
- 4. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 5. When the following message appears, select **OS installation** *** **default** ***. You can automatically advance to step 6, with no need for further input.

GNU GRUB version 2.00
DS installation *** default *** Tool menu
Use the * and + keys to select which entry is highlighted.
Use the 'and' keys to select which entry is highlighted. Press enter to boot the selected 05, e' to edit the commands before booting or `c' for a command-line. The highlighted entry will be executed automatically in 9s

The following window appears.



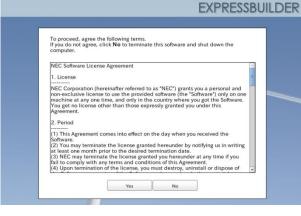
The server starts from EXPRESSBUILDER.



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



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



8. Click Setup.

Set up	Setup	
0	Versions	
	Exit	

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



□ When *not using* a parameter file : Select **Automatic Detection**, and then go to Step 10. : Select **Manual Selection**, and then go to Step 11.

□ When *using* a parameter file : Select **Load Settings**, and then go to Step 12.

Note

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

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

1 Sel	ect an operatin	g system to inst	tall.
(Clic	k Manual Selection to	configure a RAID array	only)
	Automatic De	etection	<i>b</i>
Select al automat disc.	n operating system ically with an installation	tion	
₿	Load Settings	5	

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

	e OS installation disc. SBUILDER will detect		o install.
		[Mes	sage ID : B2014]
0			

10-(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 13.

Se	elect an operating system to in	stall.
(Cl	ick Manual Selection to configure a RAID arra	y only)
- 6	Automatic Detection	
	Manual Selection	
	Load Settings	

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

Select an operating system to ir	nstall.
(Click Manual Selection to configure a RAID ar	ray only)
Automatic Detection	
Manual Selection	D B
You can select the target OS of the installation from the menu.	
	Setty

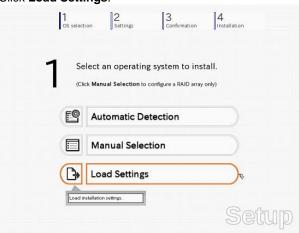
11-(2) From the pull-down menu, select Windows Server 2012 R2, and then click OK.

	Select an operating	g system to install. Windows Server 2012 F	22.0
0			×

11-(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 13.

		an operatin			
•	(Click Man	nual Selection to	configure a RAID a	array only)	
E	Au	tomatic De	etection		
•	Ma	anual Selec	tion		
	b Lo	ad Settings	;		

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



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

Places	Name	✓ Size Modified
Search	🛅 cdrom1	05/08/2014
Recently Used		
o root		
🔯 Desktop		
File System		
Documents		
Music		
Pictures		
Videos		Ξ.
Downloads 🗎		
Add Remo	ve	
		Cancel Open

Tips

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

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

1	Se	lect an operating system	to install.
4	(Cli	k Manual Selection to configure a R	AID array only)
	Ľ	Automatic Detection	
		Manual Selection	
~	₿	Load Settings	

12-(4) When the parameter file is correctly loaded, click \bigcirc on the right side of the screen. \rightarrow Go to step 16.

Click **Custom** to check and modify the setting in the wizard. \rightarrow Go to step 15-(1).

	2 *	nter installation settings.	
)	0	Default	(
	~ Ø	Custom	

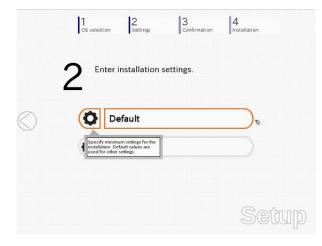
13. Specify the setup parameters by using either of the following methods:

□ When selecting **Default** : Go to Step 14.

 \Box When selecting **Custom** : Go to Step 15.

1 2 OS selection Settings	Confirmation
Enter installation s	ettings.
O Default	
Custom	

14. Click Default.



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

Specify the minimum setti Click Custom if you want			
Basic Settings			
Operating system	: Windows Se	rver 2012 R2	
Edition	: Standard(Se	erver with a GUI)	1
Language	: English	0	
Password Settings-			
Administrator Pas	sword	:	(Required)
Reenter Administ	rator Password		(Required)
		L	-
			*
ſ	Finish		Cancel
l	rinar		Cancer
			~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

Note

- Enter Administrator Password that satisfies the following conditions:
 Contains 6 or more characters
 Contains characters from at least three of the following categories: numbers,
 - uppercase letters (A Z), lowercase letters (a z), and symbols.

14-(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 16.

		OS select	on Settings	Confirmation	Installation	
	2) En	ter installation settin	gs.		
)	•	0	Default			Ć

15. Click Custom.

	1 2 3 Settings	rmation Installation
	2 Enter installation settings.	
6	Default	
	Custom	<i>a</i>
	Specify all settings for the installation.	
		Setup

15-(1) RAID Configuration is unavailable on this server. Click Next.

- Device Information	
RAID Controller	: No RAID controller is found.
Number of Physical Drives	: 1
Summary of RAID Array	
RAID Configuration	
	1 / 11 Page

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

Win	oose Use Windows stand ndows installation disc. oose Install Windows us plications easily.				
	Basic Settings Operating system		Indows Server 2012	R2	
	Install Windows usi Edition Language Time Zone	: Standard(S : English	DER ierver with a GUI) C 0) Pacific Time (US &	-	0
			×		4 / 11 Page
	Back	Next		[Cancel

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

	Specify the settings of the system partition for Windows.
	Windows will be installed on the first hard disk drive or logical drive. All data on the existing partition, shown with a red frame, will be deleted.
	Current Partitions (the area shown with a red frame will be deleted) :
	ID 08(FAT32) ID 07(NTFS) Data Partition Free Space (0.3GB) (Total: 194.9GB) (0.1GB) (363GB)
	Partition Settings
\sim	Create a new partition
~	Type a partition size (GB) *1TB=1024GB
	(Minimum: 40GB / Recommended: 40GB / Maximum: 558GB)
	5 / 11 Page
	Back Next Cancel
	-5)(E1110

Important •

Partition size

Specify a partition size larger than the minimum required for installing the operating system. (See Chapter 1 (4.1 Before Starting Setup).)

The entire contents of the destination hard disk drive will be erased.

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

Personalize this computer. Type Computer Name within 15 charact Administrator Password must be at least three of the four categories (numbers/upp	at six characters long and must co	ontain characters from
User Information		
Computer Name	: 🗹 Automatic Numbering	
	BD8685472479	(Required)
User Name	: Administrator	_
Administrator Password	:	(Required)
Reenter Administrator Password	:	(Required)
	×	6 / 11 Page
Back Next	٦	Cancel

Note

Enter Administrator Password that satisfies the following conditions:

Contains 6 or more characters
Contains characters from at least three of the following categories: numbers, uppercase letters (A - Z), lowercase letters (a - z), and symbols.

The Computer name has been assigned by automatic assignment function. If you percase for the following categories are been assigned by automatic assignment function.

Tips

The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Automatic Numbering", 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 Confirm Administrator password text boxes.

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

Standard Settings must	be chosen.		
-Network Protocols-			
Standard Set			
Custom Settin	ngs		
			Advanced
		*	
		R	
			7 / 11 Page
Back	Next		Cancel

15-(6) Specifying domain or workgroup is unavailable on this server. Click **Next**.

 Join a workgroup 			
Workgroup Name	: W	ORKGROUP	
└ O Join a domain			
Domain Name	:		
Account Name	:		
Password	:		
Reenter Password	:		
			8 / 11 Page
			Cancel

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

vanced
/ 11 Page

15-(8) Check the settings of applications. Click **Next**.

3 Wizan	1	10	10		Па	
	IPRO Agent is mar	ndatory.				
		226				
	Available Appli	cations			elected Applications	
				Express Rep	O Agent ort Service ort Service(HTTPS)	
			Add >>	Express Rep	iont service(HTTPS)	
			<< Delete			
			a a Delete	1		
- Doro	ription	2				
Desc	inpuon					
			ĸ		10 / 1	1 Page
	Back	Next			Cancel	
						_
						illu.

On the screen as s	hown belo	ow, click	Finish.
--------------------	-----------	-----------	---------

	settings are now co k Finish to close th	mplete. is window	
Circi	ci ini an to close th	is mildow.	
-			
1			
			11 / 11 Page
			50000000000000000000000000000000000000

On the screen as shown below, click \bigcirc on the right side of the screen.

Default Custom	2 "	iter installation settings	S.
Custom	~	Default	
	~ Ø	Custom	

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

	Selection 2 OS selection	Confirmation	
	2 Confirm install	ation settings.	
	(Check If correct Insta	llation settings are specified)	
$\langle \rangle$	Operating system	: Windows Server 2012 R2	\bigcirc
<u> </u>	(Install Windows using EXPRESSE	UILDER)	
	Edition Language Time Zone	: Standard(Server with a GUI) : English (UTC-08:00) Pacific Time (US & Canada)	
	Partition Settings	: Create a new partit cn(40GB)	
		Cotr	

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

	1 2 3 4 CS selection Settings Confirmation Installation
	Now you are ready to start the setup.
\bigcirc	All data on the partition will be deleted if you proceed. Copying files Changing a CD/DVD
	*
	Start
	Setup

18. In case that you started from the EXPRESSBUILDER DVD, set the EXPRESSBUILDER to the optical disk drive, then click **OK**.

If the EXPRESSBUILDER is already set, this message will not be displayed.

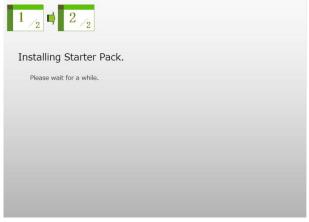
	[Message ID : J2002]
0	

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

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

Windows Server 2012 R2 is installed automatically. Wait for completion (about 90 minutes) without performing any operation.

20. The Starter Pack and the selected applications are automatically installed. Wait until the process completes without performing any operation.

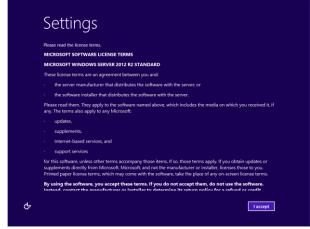


Screen displayed when Starter Pack is being installed

1 /2 2 /2	
Installing applications.	
Please wait for a while.	

Screen displayed when an application is being installed

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



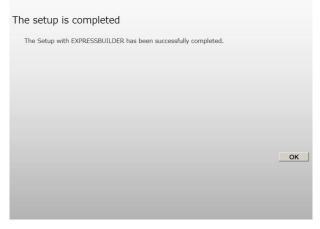
22. Press <Ctrl> + <Alt> + keys to sign-in.



Type the password you have specified in step 14-(1) or 15-(4).

	Central Administrator
ር	Windows Server 2012 R2

23. Click OK.



24. When **ft Server Setup list** appears, confirm the list items. Provide setup for the item which is unchecked.

When the version of ft Server Control Software is 10.x.xxxx, the following "ft Server Setup list" appears.

.	ft Server Set	up list	
Refer to the Inst	Software [Version :10. allation guide (Windows), follow t ak the following checkbox.	was installed.	below to complete
I Install NE	BC ESMPRO Agent		
2. Install Op	tions (LAN, SAS, Fibre Channel	board)	
3. Update S	Software		
4. Configure	e duplex LAN		
5. Configure	e dual Disk		
6. Create V	olume		
7. Change s	setting of SNMP service for NEC	ESMPRO Ager	e .
8. Enable 0	S Boot Monitoring		
9. Setup for	r Solving Problems		
10. Back up	System Information		
for example, s - When ARCse these backup	cAnywhere is installed, system m nystem may not become duplex, rive Backup or Backup Exec is i softwares have started before s of become duplex or the backup	nstalled, if the se ystem becomes	ervices of duplex.
This dialog is de until all checkbo	splayed also at next logon xx is checked.		History

When the version of ft Server Control Software is 11.x.xxxx, the following "ft Server Setup list" appears.

🔮 ft Server Setup list 🔄 🗖 🗙				
It Server Control Software [Version : 11]] was installed. Refer to the Installation guide (Windows), follow the procedures below to complete setup. And check the following checkbox.				
✓ 1. Install NEC ESMPRO Agent				
2. Install Options (LAN, SAS, Fibre Channel board)				
3. Update Software				
4. Configure duplex LAN				
5. Configure dual Disk				
6. Create Volume				
7. Change setting of SNMP service for NEC ESMPRO Agent				
8. Enable OS Boot Monitoring				
9. Setup for Solving Problems				
10. Setup of the function reporting the ft Server status				
11. Back up System Information				
 If Symantec pcAnywhere is installed, system may not operate normally, for example, system may not become duplex. 				
 When Arcserve Backup or Backup Exec is installed, if the services of these backup softwares have started before system becomes duplex, system may not become duplex or the backup software may not operate normally. 				
This dialog is displayed also at next logon until all checkbox is checked. History				

□ Install Options (LAN, SAS, Fibre Channel Board)

If you have an option board that is not yet installed, install it according to Chapter 2 (5.7 Installing/Removing/Replacing PCI Card) in Maintenance Guide.

Update Software

See Chapter 1 (4.7.1 Applying ft Server Control Software Update Module).

Configure duplex LAN

See Chapter 1 (4.8 Duplex LAN Configuration).

Configure dual Disk

See Chapter 1 (4.9 Configuring Duplexed Disks).

Create Volume

See Chapter 1 (4.10 Creating Volume).

□ Change setting of SNMP service for NEC ESMPRO Agent

As described in Chapter 2 (1.1 NEC ESMPRO Agent (for Windows)), setup SNMP service by referring to NEC ESMPRO Agent Installation Guide (Windows).

Enable OS Boot Monitoring

See Chapter 1 (4.12 Enabling OS Boot Monitoring Feature).

□ Setup for Solving Problems

See Chapter 1 (6. Setup for Solving Problems).

Tips

If necessary, perform license authentication procedure according to *Chapter 1 (4.13 License Authentication)*.

- □ When the version of ft Server Control Software is 11.x.xxxx, set up status notification function of ft server. See Chapter 1 (4.16 Setting up status notification function of ft server).
- Back up System Information
 See Chapter 1 (8. Backing Up System Information).

Setup with EXPRESSBUILDER is now complete.

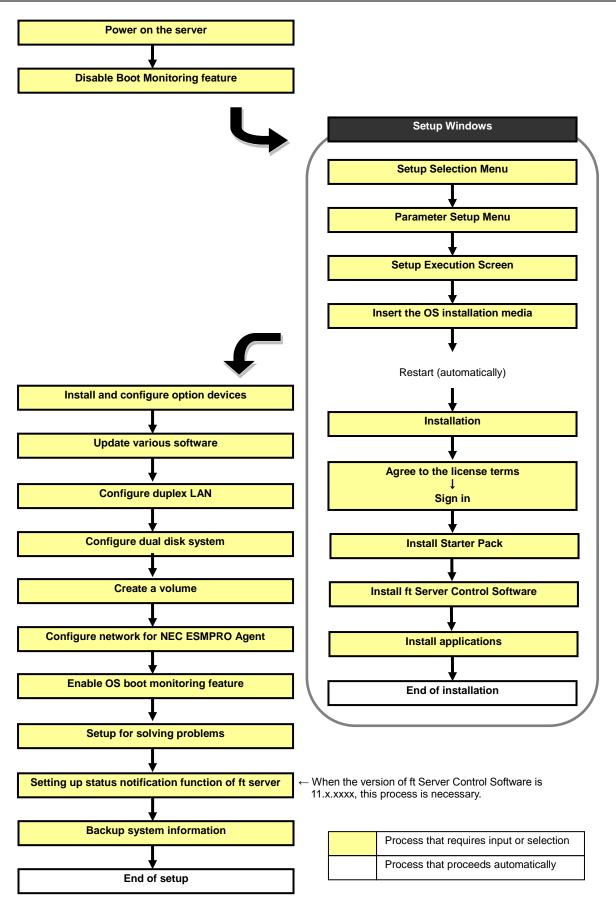
4.3 Setup with Windows Standard Installer

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

File).

Important	• /	Setup with Windows standard Installer may erase all data in the hard disk drive depending on the settings. Pay attention to input parameters. Backing up user data, as needed, is recommended. Although some dialog boxes and popup windows are displayed during installing ft Server Control Software in Setup, do not operate from the keyboard and the mouse. Installation is continued automatically. Do not operate especially although the following dialog is displayed. When installation is stopped with operation of a keyboard or a mouse, there is a possibility that OS does not start normally.
		Microsoft Windows X
		You must restart your computer to apply these changes Before restarting, save any open files and close all programs. Restart Now Restart Later
Tips	(Setup with Windows Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media. For details on creating a parameter file, see <i>Chapter 1</i> (7. <i>Windows OS Parameter</i>

4.3.1 Setup flow



4.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
 - NEC operating system installation media (hereafter referred to as Backup DVD-ROM)
 - Microsoft operating system installation media (hereafter referred to as Windows Server 2012 R2 DVD-ROM)
- EXPRESSBUILDER DVD
- > ft Server Control Software UPDATE media

Used to update ft Server Control Software. This might not be provided with your server.

Prepare if needed:

Removable media for Windows OS parameter file

ft Server Control Software update module

See Chapter 1 (4.7.1 Applying ft Server Control Software Update Module) for more information.

4.3.3 Before setting up

Before starting setup, read through Chapter 1 (4.1 Before Starting Setup) for successful setup.

4.3.4 Setup procedure

- 1. Prepare for setup according to Chapter 1 (4.1.2 Preparation).
- 2. Be sure to disable OS Boot Monitoring feature according to *Chapter 1 (4.1.3 Disabling OS Boot Monitoring Feature)*.

Important OS Boot Monitoring feature is enabled by the shipping default. Setup process will fail if this feature is enabled.

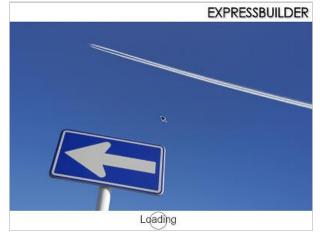
- 3. Power on the display unit, and then power on the server.
- 4. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 5. When the following message appears, select **OS installation** *** **default** ***. You can automatically advance to step 6, with no need for further input.

	GNU GRUB	version 2.00
OS installation *∺⊷k default : Tool menu	***	
Use the † and + keys to Press enter to boot the : for a command-line. The highlighted entry will		try is highlighted. ' to edit the commands before booting or `c' omatically in 9s

The following window appears.



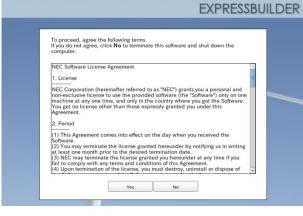
The server starts from EXPRESSBUILDER.



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



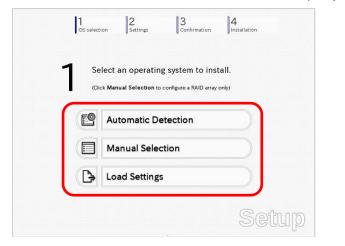
7. When the following screen appears, read the contents and click $\ensuremath{\textbf{Yes}}$.



8. Click Setup.

Set up	Setup	
•	Versions	
Ċ	Exit	

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



□ When *not using* a parameter file : Select **Automatic Detection**, and then go to Step 10. : Select **Manual Selection**, and then go to Step 11.

U When *using* a parameter file : Select **Load Settings**, and then go to Step 12.

Note

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

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

1 s	elect an operat	ting system to in	stall.	
(C	lick Manual Selection	n to configure a RAID arr	ay only)	
(19	Automatic	Detection)0	
Selec	t an operating system natically with an installation	tion		
B	Load Settin	igs		

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

Insert the OS installation EXPRESSBUILDER will		nt to install.	
	[1	Message ID : B2014]	

10-(3) <u>Click</u> \bigcirc on the right side of the screen. \rightarrow Go to step 13.

	elect an operating system to in	
(Cli	ck Manual Selection to configure a RAID arra	iy only)
* [2]	Automatic Detection	
	Manual Selection	
	Load Settings	

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

1 2 3 OS selection Settings Confirmation	4 Installation
Select an operating system to instal (Click Manual Selection to configure a RAID array on	
Automatic Detection	
Manual Selection	_₽
You can select the target OS of the installation from the menu.	
	Setup

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

	Select an operatin	g system to install.	
	Windows	Windows Server 2012 R	2 0
			*
2			

11-(3) Click \bigcirc on the right side of the screen. \rightarrow Go to step 13.

1		ect an operatir			
•	(Clic)	Manual Selection t	o configure a RAID arr	ay only)	
	9	Automatic D	etection		
•		Manual Sele	ction		
ſ	3	Load Setting	s		

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

1 OS select	ion Settings	3 Confirmation	4 Installation	
	lect an operatin			
e	Automatic De	etection		
	Manual Selec	ction		
Þ	Load Setting	5		
Load in	istallation settings.		Setuj	D

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

📄 🖃 mnt L	sr_connect					
Places	Name		~	Size	Modified	P
Search	🛅 cdrom1					
Recently Used						
🔄 root						
🔯 Desktop						
File System						
Documents						
Music						
Pictures						
Videos						Ξ
Downloads						
Add Remove						~

Tips

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

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

	elect an operating		
. (1	lick Manual Selection to	configure a RAID array	only)
E	Automatic De	tection	
	Manual Selec	tion	
< B	Load Settings		

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

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

	1 	5 selecti	on Settings	3 Confirmation	4 Installation	
	2	En	ter installation	settings.		
C		0	Default			C
	~ (ĸ	Custom			
					Seí	

13. Click Custom.

	1 OS selection	2 Settings	3 Confirmation	4 Installation
	2 Enter	installation :	settings.	
Э	0 •	efault		
		ustom		₽
	Specify all set installation.	<u> </u>		
				Setup

13-(1) RAID Configuration is unavailable on this server. Click Next.

selected.	sed for the OS installation if the	Incorrect RAID controller is
Device Information		
RAID Controller	: No RAID controller	is found.
Number of Physical Drives	: 1	
Summary of RAID Array		
RAID Configuration		
Skip Configuring RAID Array		
	×	1 / 11 Page

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

na o secon				
Basic Settings Operating system	i i	Windows Server 2	012 R2	
	s standard installer I drivers to remova	ble media	k	
□ □ Install Window	vs using EXPRESSB	UILDER		
Edition	: Standa	rd(Server with a GUI	1.0	
Language	: English			
Time Zone	: [<u>(UTC-(</u>	08:00) Pacific Time (U	IS & Canada)	4.5

On the screen as shown below, click Finish.

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

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

OS selectio	n Settings 3 Confi	rmation Installation
2	er installation settings.	
Ø	Default	
10 1	Custom	

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

	OS selection Settings	Confirmation 4	
	Confirm install	ation settings	
	$\boldsymbol{\prec}$	lation settings are specified)	
			6
)	Operating system	: Windows Server 2012 R2	
	(Install Windows using EXPRESSB	UILDER)	
	Edition	: Standard(Server with a GUI)	
	Language	: English . (UTC-08:00) Pacific Time (US &	
		Canada)	
	Partition Settings	: Create a new partitie n(40GB)	
		Save	

15. The setup process starts.

	1 2 3 4 OS selection 2 3 Installation
	Now you are ready to start the setup.
-	An installation partition already exists. All data on the partition will be deleted if you proceed.
	Changing a CD/DVD
\bigcirc	 Installing an OS
	•
	Start
	Setup

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

3 Selection		
Inser	t the EXPRESSBUILDE	ssage ID : J2002]
2		

17. The server reboots automatically.

18. The system starts from the OS installation media.

Note

If an operating system is already installed on the hard disk drive, the message "Press any key to boot from CD or DVD..." is displayed on the top of the screen. Press <**Enter**> key to boot from OS installation media.

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

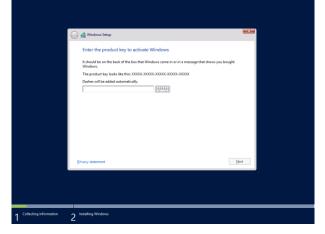
If the Windows setup screen (see the next step) does not appear, **<Enter>** key is not pressed correctly.

19. Click Next at default settings without changing any settings.



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

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



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

Î	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	
	Options"			
			Next	

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



23. Select the installation type.

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

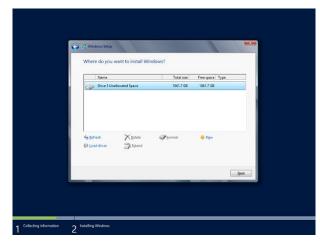
Which type of installation do you want?	
Upgrade: Install Windows and keep files, settings, and applications The files, tetings, and applications are moved to Windows with this option. This option is only wallable when a supported version of Windows is already running on the computer.	
Custom: Install Windows only (advanced) The first setting, and applications aren't moved to Windows with this option. If you want to make through to particles and along, a three the computer using the installation disc. We recommend backing up your first before par continue.	
Halp me decide	

24. Create a partition to install OS.

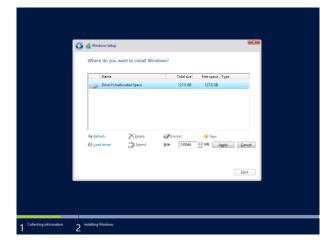
If you create the partition, click **Drive options (advanced)**. If the partition has already been created, go to step 28.

	Neme	Total size	Free space Type	
	Drive 3 Unallocated Space	1861.7 GB	1861.7 GB	
(C) Load	UR IV R			
			Net	

25. Click New.



26. Specify the partition size in the Size, and then click Apply.



Click OK in the screen below.

Windows Setup	
To ensure that all Wir additional partitions f	dows features work correctly, Windows might create or system files.
	OK Cancel
Tips	If you first create a partition, the following three partitions are created.
	 Recovery partition
	 EFI system partition (ESP)
	 Microsoft reserved partition (MSR)

27. Select the partition created in step 26, and then click Format.

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

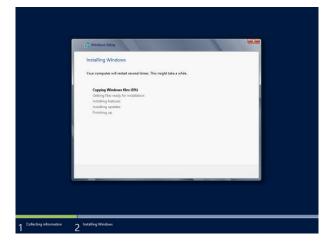
	Where do you want to install Windo	Total size	Free space Type	_	
	Drive 0 Partition 1: System Reserved	350.0 MB	320.0 MB System		
	Drive 0 Partition 2	126.7 GB	126.7 GB Primary		
				_	
	fg Befresh X Delete	Cormat	Ngw		
			(Next	
ecting information	2 Installing Windows				-

If the four partitions, Recovery, System, MSR (reserved), and Primary are not displayed, the partitions are not created successfully. Delete the created partitions and then create the partitions again. If a data disk is connected with this server, be careful not to delete other partitions.

Tips

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

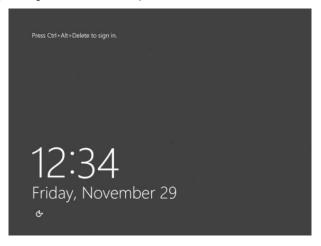
When the following message appears, Windows installation starts automatically.



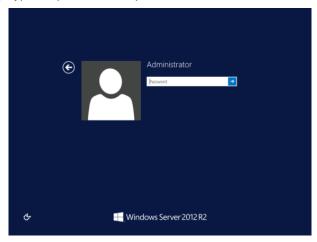
- 29. Set up in accordance with an OS selected in step 21.
 - 29-(1) Type a password and click Finish.

Setting			
Type a password for t	Administrator	t you can use to sign in to this comput	a.
Password			
Reenter password			
			Finish

29-(2) To Sign-in to the server, press <Ctrl> + <Alt> + on the screen below.



29-(3) Type the password and press Enter.



30. Windows Server 2012 R2 starts.

à	Server Manager	_ 0 ×
	er Manager • Dashboard	• 🗭 🧗 Manage Tools View Help
Dashboard	WELCOME TO SERVER MANAGER	A
Local Server	Configure this lo Configure this lo Add roles and fea Add roles and fea Add other servers Add other servers Add other servers	itures s to manage
	LEARN MORE	Hide
	Roles AND SERVER GROUPS Roles: 0 Server groups: 1 Servers total; 1	ers 1
	Manageability Manageability Events Events Services Services Performance Performance BPA results BPA results	ability
2	(i)	36 (b 12:50 AM 11/29/2013

- 31. Install Starter Pack by referring to Chapter 1 (4.4 Installing Starter Pack).
- 32. Install the ft Server Control Software according to *Chapter 1 (4.5 Installing ft Server Control Software)*. When installation completes, Setup Checklist appears on screen.
- 33. Install the NEC ESMPRO Agent.

Tips

- See Chapter 2 (1.1 NEC ESMPRO Agent (for Windows)) for installation of NEC ESMPRO Agent.
- 34. When **ft Server Setup list** appears, confirm the list items. Provide setup for the item which is unchecked.

When the version of ft Server Control Software is 10.x.xxxx, the following "ft Server Setup list" appears.

*		ft Server S	etup list	_	-	
Refer to the Ins	l Software [Versi tallation guide (V ck the following o	Vindows), follo	was installed.		omplete	
1. Install N	EC ESMPRO Ag	ent				
2. Install O	ptions (LAN, SAS	5, Fibre Chann	el board)			
3. Update	Software					
4. Configur	e duplex LAN					
5. Configur	e dual Disk					
6. Create V	/olume					
7. Change	setting of SNMP	service for N	EC ESMPRO Age	ent		
8. Enable (OS Boot Monitori	ng				
9. Setup fo	r Solving Probler	ns				
10. Back up	p System Informa	tion				
- When ARCs these backup	system may not b erve Backup or f p softwares have	Backup Exec i started before	n may not operate k. s installed, if the s s system become up software may i	services of s duplex,		
This dialog is d until all checkb	isplayed also at r ox is checked.	next logon			History	

When the version of ft Server Control Software is 11.x.xxxx, the following "ft Server Setup list" appears.

🚇 ft Server Setu	p list	_ □ >	¢				
ft Server Control Software [Version : 11] Refer to the Installation guide (Windows), follow the setup. And check the following checkbox.	was installed. e procedures below t	to complete					
1. Install NEC ESMPRO Agent							
2. Install Options (LAN, SAS, Fibre Channel bo	ard)						
3. Update Software							
4. Configure duplex LAN							
5. Configure dual Disk							
6. Create Volume							
7. Change setting of SNMP service for NEC ESMPRO Agent							
8. Enable OS Boot Monitoring	8. Enable OS Boot Monitoring						
9. Setup for Solving Problems	9. Setup for Solving Problems						
10. Setup of the function reporting the ft Server	status						
11. Back up System Information							
 If Symantec pcAnywhere is installed, system may for example, system may not become duplex. 	not operate normall	у.					
 When Arcserve Backup or Backup Exec is insta these backup softwares have started before syst system may not become duplex or the backup so normally. 	tem becomes duplex	τ,					
This dialog is displayed also at next logon until all checkbox is checked	Listers						
until all checkdox is checked.		History					

□ Install Options (LAN, SAS, Fibre Channel board)

If you have an option board that is not yet installed, install it according to *Chapter 2* (5.7 Installing/Removing/Replacing PCI Card) in Maintenance Guide.

Update Software

See Chapter 1 (4.7.1 Applying ft Server Control Software Update Module).

Configure duplex LAN

See Chapter 1 (4.8 Duplex LAN Configuration).

Configure dual Disk

See Chapter 1 (4.9 Configuring Duplexed Disks).

Create Volume

See Chapter 1 (4.10 Creating Volume).

□ Change setting of SNMP service for NEC ESMPRO Agent

As described in Chapter 2 (1.1 NEC ESMPRO Agent (for Windows)), setup SNMP service by referring to NEC ESMPRO Agent Installation Guide (Windows).

Enable OS Boot Monitoring

See Chapter 1 (4.12 Enabling OS Boot Monitoring Feature).

Setup for Solving Problems

See Chapter 1 (6. Setup for Solving Problems).

Tips

If necessary, perform license authentication procedure according to Chapter 1 (4.13 License Authentication).

U When the version of ft Server Control Software is 11.x.xxxx, set up status notification function of ft server.

See Chapter 1 (4.16 Setting up status notification function of ft server).

Back up System Information

See Chapter 1 (8. Backing Up System Information).

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 apply Starter Pack in the following cases.	
	 If the mother board has been replaced: (If a dialog box prompting you to restart appears after replacing the mother board, reboot the system according to messages and then apply Starter Pack.) 	
	If the system has been restored using the restore process	
	If the 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 EXPRESSBUILDER without using Windows Standard Installer, Starter Pack is already installed. If the hardware configuration is not changed, you do not need to apply Starter Pack again.	

- 1. Sign-in to the system as the built-in administrator (or user with administrative privileges).
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. Click Integrated Installation on the menu.

When the menu does not automatically run, run \autorun\dispatcher_x64.exe.

		NEC EXPRESSBUILDER	
EXPRESSB	UILDER		NEC
		Instruction Manuals	
	Î	Versions	
	₽¶	Integrated Installation	
		Applications	
		Files for Setup	
		Exit	
			Version 7.00-000.01(000)

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

	INEC EAPRI	ESSBUILDER		
EXPRE	ESSBUILDER			NEC
	Integrated Installation			
	Install the following software. - Install Starter Pack prior to installing the application. - Uninstall the application prior to reinstalling the application.			
	Starter Pack It Server Control Software			
	Applications NEC ESMPRO Agent Ver.4.6 Express Report Service	Rev4.65 Rev3.5E	Not installed	
	Express Report Service (HTTPS)	Rev3.5	Not installed	
	Product Info Collection Utility	Rev2.7.3	Not installed	
	BMC Configuration	Rev1.42	Not installed	
			In	istall

Tips

If Starter Pack is already installed, the **ft Server Control Software** is selected by default. To install Starter Pack again, select the **Starter Pack**.

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

	Starter Pack	×
2	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	

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

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

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

Installation of Starter Pack is now complete.

4.5 Installing ft Server Control Software

You must quit all programs including Microsoft management console.

Important ft Server Control Software does not support the overwrite installation feature (uninstallation and re-installation). If ft Server Control Software causes an error and restoration is needed, perform restoration using the data backed up before the error occurred.

1. Install ft Server Control Software in the following procedure.

When ft Server Control Software UPDATE media is not provided:

- (1) After signing in to the system as a user with the Administrative account, insert the EXPRESSBUILDER DVD into the optical disk drive of the server.
- (2) On the menu screen, click Integrated Installation, select ft Server Control Software on the menu, and then click Install.

	NEC EXPR	ESSBUILDER		
EXPRE	ESSBUILDER			NEC
	Integrated Installation			
	Install the following software. - Install Starter Pack prior to installing the application. - Uninstall the application prior to reinstalling the application.			
U	Starter Pack It Server Control Software			
(g	Applications NEC ESMPRO Agent Ver.4.6	Rev4.65	Not installed	
	Express Report Service	Rev3.5E	Not installed	
	Express Report Service (HTTPS)	Rev3.5	Not installed	
	Product Info Collection Utility	Rev2.7.3	Not installed	
	BMC Configuration	Rev1.42	Not installed	
B			h	nstall

When ft Server Control Software UPDATE media is provided:

Install ft Server Control Software from the UPDATE media according to *Instruction Manual* that comes with the media.

Follow the instructions to proceed with the installation.

Note

The message "**ft Server Control Software, Now Installing... Please Wait.**" is displayed during installation. Do not use the keyboard or mouse while this message is being displayed.

- 2. When installation starts, a message "If there is a disc in the DVD drive, please remove it." will be displayed. If EXPRESSBUILDER DVD is set in optical disk drive, remove it.
- 3. The system is rebooted several times during the installation. After the system is rebooted, sign in again as the user logged in before rebooting.

Installation of the ft Server Control Software resumes after you signed in.

4. When the message "Installation is finished" is displayed, click OK to reboot the server.

Note

Change the screen to check the message by using the taskbar, as the message may hide behind the screen.

4.6 Installing Applications

Some applications stored in EXPRESSBUILDER can be installed collectively in a batch. When installing these applications individually, see *Chapter 2 (Installing Bundled Software)*.

- 1. Sign-in to Windows on the server as the Built-in Administrator (or an account having administrative privilege).
- 2. Insert the EXPRESSBUILDER DVD into the optical disk drive and run \autorun\dispatcher_x64.exe.
- 3. Click **Integrated Installation** on the menu.

	NEC EXPRESSBUILDER	
EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files for Setup	
	Exit	
		Version 7.00-000.01(000)

4. On the following screen, select **Applications**, and select the check boxes corresponding to the applications to install, and then click **Install**.

	NEC EXE	PRESSBUILDER			
EXPRESSBUILDER				NEC	
Integrated	Installation				
	ack prior to installin	g the application. installing the applicat	tion.		
O Starter Pack	Cathuran				
Applications NEC ESMPRO Express Repo	Agent Ver.4.6 t Service t Service (HTTPS) collection Utility	Rev4.65 Rev3.5E Rev3.5 Rev2.7.3 Rev1.42	Not installed Not installed Not installed Not installed Not installed		
			h	nstall	
Nata		Check boy	res for avail	able applic	cations are selected by default.
Note	•	Application	ns which do ee the info	not meet	the requirements for installation are not installed. F in the window and Chapter 2 (Installing Bundli

The selected applications are installed automatically.

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

Now installation of applications is completed.

4.7 Setup Various Software

4.7.1 Applying ft Server Control Software Update Module

If you use ft Server Control Software UPDATE media, refer to the installation procedure enclosed in the UPDATE media to apply the update.

Important	When R320e-E4, R320e-M4, or R310e-E4 model:
	If the version of the ft Server Control Software is updated to 11.x.xxxx, change the BIOS setting <u>before applying update of the ft Server Control Software</u> .
	1. Check the BIOS version. If BIOS version is not 8.1:71 or more, update to BIOS newer version according to <i>Chapter 1 (4.5 Updating the BIOS)</i> of Maintenance Guide.
	2. Change the Legacy memory copy setting <u>from [Enabled] to [Disabled]</u> according to <i>Chapter 3 (1. System BIOS)</i> of Maintenance Guide. If Legacy memory copy setting is [Disabled], the setting change is not necessary.
Note	 Be sure to disable OS Boot Monitoring feature before updating ft Server Control Software according to <i>Chapter 1 (4.1.3 Disabling OS Boot Monitoring Feature)</i>. In addition, disconnect all the network cables from the server before starting update. Upon completion of update, set OS Boot Monitoring feature to Enabled.

4.7.2 Applying Security Patches and QFE

When you use the server for the first time, apply the QFE for knowledge information listed below, for stable operation of your server. You can obtain these QFEs from Microsoft web site.

• KB2919355, KB2919442, KB2937220, KB2938772, KB2939471, KB2949621

Windows RT 8.1, Windows 8.1, and Windows Server 2012 R2 update : April 2014 (<u>http://support.microsoft.com/kb/2919355</u>)

Important	When the version of the ft Server Control Software is 11.x.xxxx, repair the following programs after applying KB2919355.
	- Microsoft Visual C++ 2015 Redistributable(x64) - 14.0.23918 - Microsoft Visual C++ 2015 Redistributable(x86) - 14.0.23918
	When these programs are installed without applying KB2919355, installation has been finished incomplete.
	Repairing as follows.
	- Open Programs and Features.
	- Select "Microsoft Visual C++ 2015 Redistributable (x64) - 14.0.24123" and then click "Change".
	- In the Visual C++ 2015 redistributable dialog, select "Repair".
	- Select "Microsoft Visual C++ 2015 Redistributable (x86) - 14.0.24123" and then click "Change".
	- In the Visual C++ 2015 redistributable dialog, select "Repair".

KB2962409

June 2014 update rollup for Windows RT8.1, Windows 8.1, and Windows Server 2012 R2 (http://support.microsoft.com/kb/2962409)

KB2939087

Error 0x80071a91 when installing update 2919355 in Windows (http://support.microsoft.com/kb/2939087)

KB2966870

Fix restart problems after you install update rollup 2919355 in Windows 8.1 or Windows Server 2012 R2 (http://support.microsoft.com/kb/2966870)

KB3027108

"0x0000003B" Stop error when you mount a virtual hard disk driver in Windows on a computer that has 4K sector disks

(http://support.microsoft.com/kb/3027108)

When the version of the ft Server Control Software is 11.x.xxxx, apply the following QFE for knowledge information.

Tips

For details on confirming the ft Server Control Software Version, see the chapter of "Confirming the ft Server Control Software Version".

- KB3075161

Computer might crash during storage enumeration stack in Windows Server 2012 R2 (http://support.microsoft.com/kb/3075161)

- KB3121260

"0x800706BE" error when you query disk details in Windows Server 2012 R2 (http://support.microsoft.com/kb/3121260)

- KB3021952

MS15-009: Description of the security update for Internet Explorer: February 10, 2015 (http://support.microsoft.com/kb/3021952)

- KB3023607

Secure Channel cumulative update changes TLS protocol renegotiation and fallback behavior (http://support.microsoft.com/kb/3023607)

- KB3036197

Update for Internet Explorer Administrative Template resources (http://support.microsoft.com/kb/3036197)

- KB3034196

MS15-009: Description of the security update for JScript9.dll in Internet Explorer: February 10, 2015 (http://support.microsoft.com/kb/3034196)

- KB3021910

April 2015 servicing stack update for Windows 8.1 and Windows Server 2012 R2 (http://support.microsoft.com/kb/3021910)

- KB3172614

July 2016 update rollup for Windows 8.1 and Windows Server 2012 R2 (http://support.microsoft.com/kb/3172614)

- KB3126593

MS16-014: Description of the security update for Windows Vista, Windows Server 2008, Windows 7, Windows Server 2008 R2, Windows Server 2012, Windows 8.1, and Windows Server 2012 R2: February 9, 2016

(http://support.microsoft.com/kb/3126593)

- KB3029603

xHCl driver crashes after you resume computer from sleep mode in Windows 8.1 or Windows Server 2012 R2

(http://support.microsoft.com/kb/3029603)

When the version of the ft Server Control Software is 11.x.xxxx, and Hyper-V is installed to your system, apply the following QFE for knowledge information.

- KB3102354

Hyper-V generation 2 virtual machines can't start with some pass-through disks in Windows Server 2012 R2 (https://support.microsoft.com/kb/3102354)

Refer to Microsoft knowledge base for details of QFE. These QFEs may be included in the other update programs in future. If such a program is already applied, you need not to apply these programs.

When applying security patches and QFE, there is no restriction specific to ft Server is imposed. Apply patches according to your system environment.

Important

As for Windows service pack, use only the one provided with the server. Do not apply any other service pack.

4.8 Duplex LAN Configuration

The Express5800/ft series builds a duplex LAN configuration by using "Stratus emb-I350 2-Port Gigabit Adapter" or "Stratus emb-X540 2-Port Copper 10 Gigabit Adapter (*)" mounted as standard on the CPU/IO module and the additional LAN card "Stratus I350 2-Port Gigabit Adapter" or "Stratus X540 1-Port Copper 10 Gigabit Adapter".

(*) Express5800/R310e-E4, R320e-E4, R310f-E4, R320f-E4 do not have this adapter.

(1) Overview

The duplex LAN configuration is of three types as described below:

• Adapter Fault Tolerance (AFT)

AFT is a feature that places more than one LAN adapters on the same switch, and automatically switches the process of the active adapter to the backup adapter when any trouble occurred on the active adapter. STP (Spanning Tree Protocol) on switch must be disabled.

• Adaptive Load Balancing (ALB)

ALB includes features of AFT, and enhances the throughput by distributing packet transmission by using LAN adapters simultaneously.

Receive Load Balancing (RLB) is enabled by default. Disable RLB and remove adapter priority when using ALB.

• Switch Fault Tolerance (SFT)

SFT is a feature that provides redundant network, as two adapters are connected to corresponding two switches. One is assigned to the active adapter and the other is assigned to the standby adapter. Usually the active adapter is used for communication.

Spanning Tree Protocol (STP) function is required to construct the path redundancy on the switch devices.

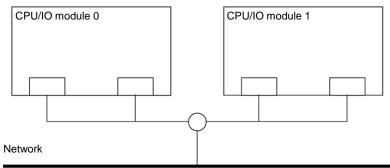
When you build the environment, you need to set the switch priority in order to maintain the path to the active adapter after the path information is updated if a switch on the path is broken. In addition, you need to set the priority to use the standby adapter's switch if the active adapter's switch is broken.

The other modes, "Static Link Aggregation", "IEEE 802.3ad Link Aggregation", and "Virtual Machine Load Balancing" do not contribute to enhancement of network availability. When a fault occurs, the communication performed on the failed adapter is not taken over by the standby adapter but lost.

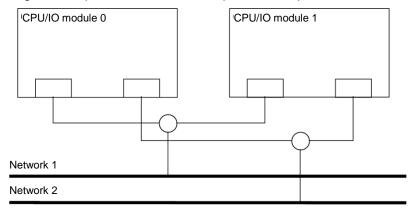
(2) Rules of Duplex Configuration on Express5800/ft series

When building duplex configuration, be sure to use both adapters CPU/IO module 0 and 1.

Example 1) Configure the duplex network which enhances the service life by using all adapters.



Example 2) Configure the duplex network which corresponds to multiple LAN connection.



(3) Configuring Duplex LAN

This section describes how to configure duplex LAN.

Important	ft server is not supporting Windows Server 2012 NIC teaming (LBFO). Please build duplex LAN configuration in the following procedure.
Note	 Because the configuration from the remote site may fail, you need to sign in as an Administrator or a member of Administrators group. The screen images are subject to change because of the network driver version. Substitute as appropriate when content has been modified.

1. Select Start Screen - Administrative Tools - Computer Management - Device Manager.

Note	Check Network Adapter, and if LAN adapters are duplicated as shown below, remove all
	LAN adapters from Device Manager, then select Action – Scan for hardware changes.
	Stratus emb-I350 2-Port Gigabit Adapter
	Stratus emb-I350 2-Port Gigabit Adapter
	Stratus emb-I350 2-Port Gigabit Adapter #2
	Stratus emb-I350 2-Port Gigabit Adapter #2
	The display will be as follows when the actions are performed properly.
	Stratus emb-I350 2-Port Gigabit Adapter
	Stratus emb-I350 2-Port Gigabit Adapter #2
	Stratus emb-I350 2-Port Gigabit Adapter #3
	Stratus emb-I350 2-Port Gigabit Adapter #4
	When 10GBASE-T is used, the network adapter names "Stratus emb-X540 2-Port Copper
	10 Gigabit Adapter" and "Stratus X540 1-Port Copper 10 Gigabit Adapter" are displayed.

2. Select a target LAN Adapter. Select **Properties** from the right-click menu to open the **Properties** window.

_	Device Manager	- 🗆 🗙
File Action View Help		
🗢 🔶 📰 🖾 🖬 🛤 🕼 🎼 🧒		
■ BD9480301294 ▷ Computer ▷ Display adapters ▷ Monan Interface Devices ▷ Monitors ■ Ventors ■ Network adapters Stratus emb-1350 2-Port Gigabit Adapter ■ Stratus emb-1450 2-Port Copper 10 Gig	Update Driver Software Disable Uninstall Scan for hardware changes Properties Adapter #4	
High Print queues Processors		
Processors Generation of the second		
System devices		
Universal Serial Bus controllers		

3. Select the **Teaming** tab on the **Properties** dialog box. Select the **Team this adapter with other adapters**, and then click the **New Team...** button.

Stratus	emb-1350 2-	Port Giga	bit Ada	pter Prop	erties 🗙
VLANs General	Boot Options Link Speed	Driver Advanced	Details Power M	Events Management	Resources Teaming
(inte	Adapter T	eaming			
√ Te	am this adapter w	ith other ada	pters	N 7	
T	ea <u>m</u> :			<u>N</u> ew Te	am
1	No teams available	в	× .	<u>P</u> roperti	es
Team w	ith other adapters				
particip	you to specify v pate in a team. Fo hecked this adap	r an overvie	w of teamin	ng, <u>click here</u>	^
					~
				ОК	Cancel

Stratus emb- I350 2-Port Gigabit Adapter and Stratus I350 2-Port Gigabit Adapter is used

Stratus er	nb-X540 2-	Port Copp	per 10) Gigab	oit Ada	apter 🗙	
General	General Link Speed Advanced Power Management Data Center						
Teaming	VLANs Boo	t Options D	niver	Details	Events	Resources	
inte	Adapter	Teaming	antere				
Ţ	ea <u>m</u> :		uproro;		<u>N</u> ew Te		
	No teams availa	ble	~		Properti	es	
Allows	ith other adapte s you to specify pate in a team. I shecked this ad	/ whether a n For an overvie	ew of t	eaming, g			
						× I	
				Oł	(Cancel	

Stratus emb-X540 2-Port Copper 10 Gigabit Adapter and Stratus X540 1-Port Copper 10 Gigabit Adapter is used

4. Enter the team name and click **Next**.

	New Team Wizard	×
	Welcome to the Intel(R) Adapter New Team Wizard Specify a name for the team: Image: Comparison of the team Image: Comparison of team	~
Note	Specify the team name with 3 or more character If the team name is specified with 3 or less chara with the following message displayed: "Failed to create a team."	

5. Select the adapters to include in the team and click Next.



Note	Use adapters	us" and "Function (*)" of adapters to be included in the team. of the same functionality. Create a team with an adapter having smaller PCI ind an adapter having larger PCI bus number.
	(*) "Function"	can be verified in General tab of Properties window.
	PCI bus:	Smaller value (PCI module #0 side) Larger value (PCI module #1 side)
	Function:	0 (Port #0 side) 1 (Port #1 side)
	Example:	
		s (smaller value), Function 0 (Port #0 side) s (larger value), Function 0 (Port #0 side)
		s (smaller value), Function 1 (Port #1 side) s (larger value), Function 1 (Port #1 side)

6. Select Adapter Fault Tolerance, Adaptive Load Balancing, or Switch Fault Tolerance as a team mode. Click Next.

	Select a grant type: Advanced and the Discontege Static Link Appregation Static Link Appregation Static Link Appregation Switch Fault Tolerance Adapter Fault Tolerance Adapter Fault Tolerance (AFT) provides redundancy through automatic faulty overs from an active adapter to a standby adapter in the case of switch port, cable, or adapter faultr One adapter is selected to be the active adapter. All ther adapters are in standby. Primary and Secondary adapters and be selected for the	
a second	Primary and Secondary adapters can be selected for the team, but are on trequired. If a Drimary adapter is chosen if heromes the active < <u><back< u=""> <u>Mext></u> Canc</back<></u>	✓

Note

Virtual Machine Load Balancing is displayed when Hyper-V feature is enabled.

7. Select Standard Server from the dropdown list on Select a profile to apply to the team, and click Next.



8. Click Finish.



- 9. Start Command prompt and enter as follows to check the physical MAC address of team adapter.
 - > ipconfig /all

G	Administrator: Command Prompt	_ □	x
Connection-speci Description Physical Address DHCP Enabled	hernet 21: Media disconnected fic DNS Suffix		<

10. Select the Team Adapter you have set from **Device Manager**. Select **Properties** from the right-click menu to open the properties dialog box.

	Device Manager	_ □ ×
File Action View Help		
	l 📴 👰 🚳	
BD8480301294 BD8480301294 BC6 Computer Comp Computer Computer Comp Computer	: 15 g devices Port Gigabit Adapter	
Processors	Scan for hardware changes	
Storage controllers	Properties	
Image: System devices		
Universal Serial Bus con	trollers	
Opens property sheet for the currer	it selection.	

- 11. Set the MAC address for Team Adapter as follows:
 - Select the Advanced tab on the Properties dialog box. Select Locally Administered Address from the Settings list box
 - Enter the MAC address of a Team Adapter, which you have checked in Step 9 in the Value: text box.
 - Click OK.

_

TEAM : Team #0 Properties						
General Settings Advanced VLANs Driver Details Events						
Advanced Team Settings						
Settings: <u>V</u> alue:						
Activation Delay Allow Failback Check Time (in Seconds) Locally Administered Address Probes						
Use <u>D</u> efault						
Locally Administered Address						
Changes the MAC address used by this network adapter. The address is a 12-digit hexadecimal number in this range: 0000 0000 0001 - FEFF FFFF FFFF. CAUTION: Make sure no other systems on the network use this address. VX NOTES:						
Do not use a multicast address (least significant bit						
OK Cancel						

- 12. Disable probe function when the team configured with only two adapters.
 - Select the Advanced tab in the Properties window. Select Probes from the Settings list box.

TEAM : Team #0 Properties						
General Settings Advanced VLANs Driver Details Events						
Advanced Team Settings						
Settings: Activation Delay Allow Fallback Check Time (in Seconds) Locally Administered Address Probes						
Probes Enables the use of probes for the team. Probes are packets passed over the network between team members to allow the Advanced Network Services (ANS) Teaming software to test the member's status. They do add a small amount of traffic to the network and should be turned off in near-capacity networks. NOTE: Changing this setting may cause a momentary loss of connectivity.						
OK Cancel						

Click Properties and uncheck to Send Probes.

Click OK.

The Probe setting is not displayed when **Switch Fault Tolerance (SFT)** feature is specified. Go to Step 13.

Note

When **Probe** is enabled in an environment where the team is configured with two adapters, if either of adapters fails, the other (healthy) adapter may be recognized as failed. If the team is configured with four adapters, you do not need to disable **Probe**.

- 13. When you select **Adaptive Load Balancing** as a team mode, you need to disable **Receive Load Balancing** and remove the adapter priority.
 - (1) Select the **Advanced** tab on the properties dialog box. Select **Receive Load Balancing** from the **Settings:** list box, and then select **Disabled** from the **Value:** drop down list.

TEAM : Team #0 Properties						
General Settings	Advanced	VLANs	Driver	Details	Events	
(intel)	dvanced Tea	am Setting	js			
Settings:			<u>V</u> al	ue:		
Activation Delay Allow Failback			D	isabled		~
Check Time (in Se Load Balance Re Locally Administer Probes	fresh Rate ed Address					
Receive Load Ba	ancing			Use	<u>D</u> efault	
Receive Load Ba	ancing					
Allows you to enable or disable Receive Load Balancing (RLB). This is enabled by default on Adaptive Load Balancing teams. RLB requires a Primary adapter. Intel® PROSet will automatically assign a Primary adapter when the team is created. To change the Primary adapter, use the Modify Team button on the Settings tab.						
NOTES • AL	and RLB loa	ad balanc	e IP traff	ic. All oth	er	~
				ОК	C	ancel

- (2) Click **OK** to apply a change. The dialog will close.
- (3) Show the properties dialog again.
- (4) Select the **Settings** tab on the Properties dialog box and click **Modify Team** button to display the dialog box.

(5) Select the adapter that the priority is set, and then press the **Remove Priority** button to remove the priority.

		in this team:	Priority
	tus emb-I350 2-Port G		Primary
	itus emb-I350 2-Port G	-	Not Set
	tus emb-X540 2-Port C		-
< Stra	atus emb-X540-2-Port C	Conner 10 Gidabit Ada 11	in
Thio li	t shows the adapters	that are available for	Advanced
Netwo	rking Services (ANS) (teaming, Adapters the	
suppo	rking Services (ANS) f rt ANS teaming, are alr nerwise unable to join a	eady members of an	other team, or

(6) Click **OK** to close the dialog box.

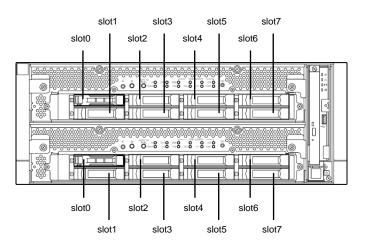
4.9 Configuring Duplexed Disks

Express5800/ft series secures data by setting dual disk configuration using RDR (Rapid Disk Resync) function. Be sure to make dual disk settings according to the procedure described below.

Important	•	Set dual disk configuration by the RDR (Rapid Disk Resync) function.
	•	To use RDR (Rapid Disk Resync) function, sign in to a built-in Administrator account.
	•	CPU/IO module has a processor function part and IO function part, and monitors and manages each part. The IO function part is referred to as PCI module in this section.
	•	All hard disk drives installed in built-in slots need to be duplexed. See Chapter 1 (4.9 (1) Setting Dual Disk Configuration by RDR (Rapid Disk Resync) function) and duplex the hard disk drives in each slot.

(1) Setting Dual Disk Configuration by RDR (Rapid Disk Resync) function

The server sets dual configuration for each disk by the RDR function of the ft Server Control Software. By setting RDR, as the following figure and table show, dual configuration is set between the disks of the corresponding slots, and these disks are recognized as one virtual disk by OS (such as Disk Management and Device Manager).



Slots corresponding to the mirroring process

Corresponding slot					
PCI module 10 Slot 0 ⇔ PCI module 11 Slot 0					
PCI module 10 Slot 1 ⇔ PCI module 11 Slot 1					
PCI module 10 Slot 2 ⇔ PCI module 11 Slot 2					
PCI module 10 Slot 3 ⇔ PCI module 11 Slot 3					
PCI module 10 Slot 4 ⇔ PCI module 11 Slot 4					
PCI module 10 Slot 5 ⇔ PCI module 11 Slot 5					
PCI module 10 Slot 6 ⇔ PCI module 11 Slot 6					
PCI module 10 Slot 7 ⇔ PCI module 11 Slot 7					

In the table above, PCI module names correspond as follows:
 PCI module (for CPU/IO module 0) - PCI module 10
 PCI module (for CPU/IO module 1) - PCI module 11

Note	•	To perform this procedure, you need to sign in to a built-in Administrator account.
	•	RDR can only be set on the basic disk inserted into the built-in slot of NEC Express5800/ft series. It cannot be set on the dynamic disk.
	•	For the disk on which RDR is set, use the products with the same model number.
	•	Configure the RDR settings in the same way not only when the OS is installed but also when the disk is added to the PCI module.
	•	Create partitions only after the duplication of the hard disk drives are configured.
	•	Use a basic disk as the system disk. Only a data disk can be used for a dynamic disk.

Dual disk configuration procedure differs depending on the procedure whether it is for the system disk (slot 0) or the data disk (slot 1 to slot 7).

Tips

To configure the dual disk of the system disk, see (2) System Disk Dual Configuration Procedure below.

To configure the dual disk of the data disk, see (3) Data Disk Dual Configuration Procedure below.

(2) System Disk Dual Configuration Procedure

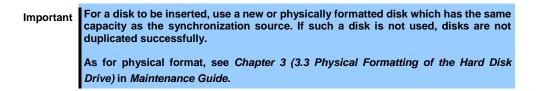
Configure the dual disk of the system disk with the following procedure.

From Start Screen, click (1) and RDR Utility to start RDR Utility.

1. On the left pane of the RDR Utility, select **Slot 0** of **PCI module 10** and confirm that "**ConfigState**" on the right pane shows "**Boot, Configured, Active, Imported**".

ð	RDR Utilit	ty (ft-S	W : x.x.x	(.x)	Ŀ	- 🗆 X
<u>File Action H</u> elp						
Eile Action Help PCI module 10 SCSI Enclosure SCSI Enclosure Sot 1 Sot 2 Sot 3 Sot 4 Sot 4 Sot 6 Sot 7 PCI module 11 SCSI Enclosure Sot 5 Sot 6 Sot 7 PCI module 11 SCSI Enclosure Sot 0 Sot 1 Sot 3 Sot 3 Sot 4	Name DevicePathID Op State: State Op State: Reason Vendor ProductID ProductID ProductRevisionLevel SerialNumber ObjectName Canadiv ConfligState MTBF: HardNumberOfFaults MTBF: SoftCurrent MTBF: SoftNumberOfFaults SSD Endurance(%)		Value 10/40/1/0 Simplex None HGST HUC156030CSS200 A30B 0TG15R9L Harddisk0-LUN1-PLEX0 279.4 GR Boot. Configured, Active, Imported Unknown 0 Unknown 0)	
- Slot 5 - Slot 6 - Slot 7 ⊡ Logical Disk Information - RDR Virtual Disk 1	PCI module 10 Stot0 273.4 GB Simplex (LUN 39/1) DO NOT REMOVE Stot1	Slot2 Empty Slot3		Slot4 Empty Slot5	Slot6 Empty Slot7	
	Empty PCI module 11 Slot0 Empty Slot1 Empty	Empty Slot2 Empty Slot3 Empty		Empty Slot4 Empty Slot5 Empty	Empty Slot6 Empty Slot7 Empty	
Refresh Last Updated date/time: 7/2/20) 015 1:15:39 PM					:

- For details of RDR Utility, see Chapter 2 (1.2 Disk Operations Using RDR (Rapid Disk Resync) Function) in the Maintenance Guide.
 The display of RDR Utility does not refresh automatically. From the menu, go to Action and click Refresh or press F5 key every time you conduct disk-related operations such as connecting/disconnecting disks or configuring the RDR.
 On RDR Utility, PCI module names appear as follows.
 PCI module (CPU/IO module 0) PCI module 10
 PCI module (CPU/IO module 1) PCI module 11
- 2. Insert the disk for the dual configuration to the Slot 0 of PCI module 11.

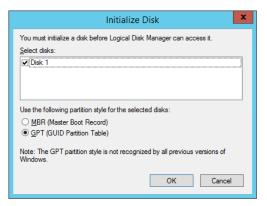


When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

3. From Start Screen, select Administrative Tools and start Computer Management. On the tree in the left pane, click Disk Management.

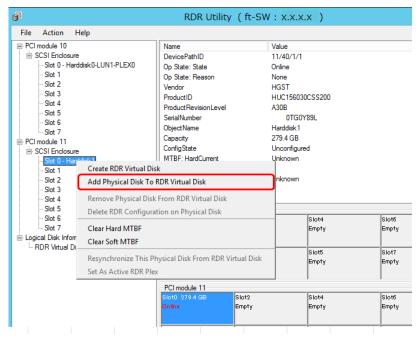
If the inserted disk is indicated as Offline in the right pane, right-click the disk and make it online. After that, If the inserted disk is indicated as Not Initialized, right-click the disk again and initialize it.

2		Compu	ter Management
File Action View Help			
🗢 🄿 🙇 📰 🚺 🖬	ef 15.		
🜆 Computer Management (Local	Volume Layout	Type File System Status	
⊿ 👔 System Tools	📼 Simple		artition)
Task Scheduler	🛥 Simple		
Event Viewer	(C:) Simple	Basic NTFS Healthy (Boot, Page	File, Crash Dump, Primary Partition)
Shared Folders			
Local Users and Groups	<	ш	
Performance			
🚔 Device Manager	Disk 0		
⊿ 🔄 Storage	Basic	(C:)	
Windows Server Backup	279.27 GB Online	300 MB 100 MB 79.48 GE	
📄 Disk Management	Online	Healthy (Recov Healthy (EF Healthy	(Boot, Page File, Crash [Unallocate
Services and Applications			
	Disk 1		
	Unknown		
	838.19 GE	020 10 CD	
	Not Initiali	nitialize Disk	
		ffline	
		roperties	
	DVD (D:)	lelp	
	No Media		



When a disk is initialized, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

4. On the left tree of RDR Utility, right-click **Slot 0** disk of **PCI module 11** and click **Add Physical Disk To RDR Virtual Disk**.



Important When "An internal error occurred. The current RDR Virtual Disk operation cannot be completed." was indicated at the time of this operation, "Initialize Disk" seems not to have been performed to a target disk beforehand. Confirm the state of a target disk in Disk Management.

In addition, there are cases a target disk is initialized by MBR at the time of this operation. In that case, after converting to the GPT disk, do this operation again.

5. Click OK.



6. Verify that disk synchronization has started and the status of the DISK ACCESS LED and RDR Utility display changes as the following table.

	DISK ACCESS LED	RDR	Utility
	DISK ACCESS LED	Op State: State	Status
Source disk	Blinking amber and green	Simplex	_
Destination disk	Blinking amber and green	Syncing	_
RDR Virtual Disk	_	Simplex	Resync x % (x = 0, 4, 8,, 96)

Synchronizing

Tips

DISK ACCESS LED is lit green when hard disk drive is accessed. If access is made while synchronization is in progress (LED is blinking amber), it seems that the green and amber LEDs are lit alternately.

The time required for synchronization varies depending on the partition size on the disk. For a 279 GB partition, it takes about 160 minutes.

ീ	RDR Utilit	y (ft-SW: x	x.x.x)		_ 🗆 X
<u>File</u> <u>Action</u> <u>H</u> elp					
Eile Action Help PCI module 10 SCSI Enclosure - Stot 0 -Harddisk0-LUN1-PLEX0 - Stot 1 - Stot 2 Stot 3 - Stot 4 Stot 4 - Stot 5 Stot 6 - Stot 6 Stot 7 PCI module 11 - Stot 0 - Harddisk0-LUN1-PLEX1 Stot 0 - Stot 6 Stot 1 - Stot 7	Name Value DevicePathID 39/1 Op State: State Simplex Op State: Reason None Vendor Stratus ProductID Data Duplex LUN ProductRevisionLevel 9 SenalNumber 772£7277-91f8-4774-beda-299801270176 Capacity 279.4 GB ObjectName Harddisk0 Caption RDR Virtual Disk 1 DevicePath[1] 10/40/1/0 ActiveRDRPlex Harddisk0-UUN1-PLEX0		1801270176		
- Sict 2 - Sict 3 - Sict 4 - Sict 5 - Sict 6 - Sict 7 ⊡ Logical Disk Information	ReadLoadBalancing ResyncLUNPriority Status PCI module 10 Slotto 273.4 GB Simplex: LUN 33/13 Slott1 FLHOVE Slott1	On High	Slot5	g 03:50 Slot6 Empty Slot7	
	Empty PCI module 11 Slot0 279.4 GB	Empty Slot2	Empty Slot4	Empty Slot6	
	Syncing (LUN 39/1) Resync 8% Slot1	Empty Slot3	Empty Slot5	Sloto Empty Slot7	
Refresh Last Updated date/time: 7/2/20	Empty 15 1:28:11 PM	Empty	Empty	Empty	

Important

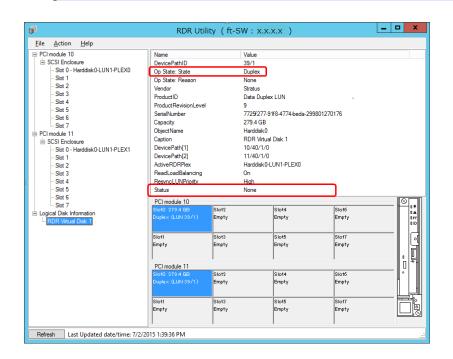
- If the system is rebooted during synchronization, the process cannot be completed. Do not restart the system until the synchronization is completed.
- When the system is halted without shutting down OS properly due to forced shutdown or others, the entire area of the partition on the synchronized disks will be resynchronized after the system is restarted.

Synchronization completed

	DISK ACCESS LED	RDR	Utility
	DISK ACCESS LED	Op State: State	Status
Source disk	unlit (Lights green when accessing the disk drive)	Duplex	_
Destination disk	unlit (Lights green when accessing the disk drive)	Duplex	_
RDR Virtual Disk	_	Duplex	None

Tips

DISK ACCESS LED is lit green only when hard disk drive is accessed. If no access is made, the LED seems to be unlit.



(3) Data Disk Dual Configuration Procedure

Follow the procedure below to configure dual data disk for the slots 1 to 7.

Note

The following shows how to configure dual disk for the slot 1. If you want to configure the dual disk for slot 2 to slot 7, read "slot 1" as the slots you want to make dual configuration and perform the procedure.

1. Insert a disk for the dual configuration into the Slot 1 of PCI module 10.

If a disk is already mounted, this procedure is not necessary.

ImportantFor a disk to be inserted, use a new or physically formatted disk. If such a disk is not
used, disks are not duplexed successfully.As for physical format, see Chapter 3 (3.3 Physical Formatting of the Hard Disk
Drive) in Maintenance Guide.

When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

2. From Start Screen, select Administrative Tools and start Computer Management. On the tree in the left pane, click Disk Management.

If the inserted disk is indicated as Offline in the right pane, right-click the disk and make it online. After that, If the inserted disk is indicated as Not Initialized, right-click the disk again and initialize it.

2		Computer Management
File Action View Help		
🧢 🔿 🖄 🗔 👔 🖄 I	s i i i i i i i i i i i i i i i i i i i	
 Computer Management (Local System Tools Task Scheduler Event Viewer Shared Folders Shared Folders Evolution Server and Groups Performance Device Manager Storage Windows Server Backup Disk Management Services and Applications 	Simple Basic Healthy (I	Recovery Partition) EFI System Partition) Boot, Page File, Crash Dump, Primary Partition) III (C:) 79,48 GB NTFS Healthy (Boot, Page File, Crash [Unallocated
	Color Disk 1 Unknown 020.10.20 838.19 Gt Initialize Disk Not Initiali Initialize Disk Offline Offline WDD (D:) Properties Help No Media	
	Initialize Disk You must initialize a disk before Logical Disk Manage Select disks: Disk 1 Use the following partition style for the selected disks MBR (Master Boot Record) @ GPT (GUID Partition Table) Note: The GPT partition style is not recognized by all Windows.	

When a disk is initialized, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

3. From Start Screen, click (1) and RDR Utility to start RDR Utility.

Tips

- If the inserted disk does not appear on the tree, from the menu of RDR Utility, select **Action** and click **Refresh** or press **<F5>** to update the display after a while.
- The display of RDR Utility is not updated automatically. Therefore, update it every time after you perform disk operations described below.

4. On the left pane of the RDR Utility, right click on the Slot 1 disk of PCI module 10 and select Create RDR Virtual Disk.

Depending on the disk condition, RDR setting may take some time and RDR Utility may pause for a few minutes. There is no error, so wait until the process is completed.

File Action He	lp		1.2222/07	
PCI module 10 SCSI Enclosure		Name Device Reth ID	Value	
	isk0-LUN1-PLEX0	DevicePathID Op State: State	10/40/2/1 Online	
- Slot 1 - Hardd			he	
- Slot 2			ST	
Slot 3 Slot 4	Add Physical Disk	To RDR Virtual Disk	C156030CSS200	
Slot 5	Remove Physical [Disk From RDR Virtual Disk	DB	
- Slot 6	Delete RDR Config	uration on Physical Disk	0TG15RDL	
Slot 7	Clear Hard MTBF		rddisk 1 9.4 GB	
PCI module 11 SCSI Enclosure	Clear Soft MTBF		configured	
- Slot 0 - Hardc			known	
Slot 1		s Physical Disk From RDR Vi	irtual Disk	
- Slot 2	Set As Active RDR	Plex	known	
- Slot 3				
Slot 4		SSD Endurance(%)		
Slot 5 Slot 6		PCI modulo 10		
Slot 7		PCI module 10 Slot0 279.4 GB	Slot2 Slot4	2
 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.			101014	
lick OK.		_		DR Virtual Disk
lick OK.				
	wh		o a disk which contains	ation was completed.
	wh Ste Be Clo	ich cannot be unm p 6 does not appea cause pop-up mess	o a disk which contains sounted such as setting t ar. sage that reboot of the sy tem will be automatically	ation was completed.
	wh Ste Clc Ste In a	ich cannot be unm p 6 does not appea cause pop-up mess ose or OK. The system p 7 after the system addition, when the	o a disk which contains nounted such as setting t ar. sage that reboot of the sy tem will be automatically m is rebooted.	ation was completed.

 Insert the disk to set dual configuration into the Slot 1 of PCI module 11, and perform "Initialize Disk" like Step 2.

If a hard disk drive is already mounted, this procedure is not necessary. Perform "Initialize Disk" only.

•	For a disk to be inserted, use a new or physically formatted disk which has the same capacity as the synchronization source. If such a disk is not used, disks are not duplicated successfully.	
	As for physical format, see Chapter 3 (3.3 Physical Formatting of the Hard Disk	
	Drive) in Maintenance Guide.	

When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

8. Right-click the **Slot 1** of the **PCI module 11** from the left pane of RDR Utility, and then click **Add Physical Disk To RDR Virtual Disk**.

6 1		RDR Utili	ty (ft-SW : x.x	.x.x)		_ D X
<u>F</u> ile <u>A</u> ction <u>H</u> elp						
PCI module 10 SCSI Enclosure Stot 0 - Harddisk(Stot 1 - Harddisk(Stot 2 Stot 3 Stot 4 Stot 5 Stot 5 Stot 7 PCI module 11 SCSI Enclosure	1-LUN2-PLEX0	Name DevicePathID Op State: State Op State: Reason Vendor ProductID ProductRevisionLevel SerialNumber ObjectName Capacity ConfigState MTBF: HardCurrent	Value 11/40/2/2 Online None HGST HUC15603 A30B 017600 Harddisk2 279.4 GB Unconfigun Unknown	OCSS200 XHPL		
Slot 0 - Harddisk(<mark>Slot 1 - Harddis</mark> Slot 2 Slot 3 Slot 4	Create RDR Virtual Add Physical Disk		hown			
Slot 5 Slot 6		isk From RDR Virtual Dis uration on Physical Disk	k	Slot4	Slot6	
Slot 7 ⊡ Logical Disk Informatic 					OFT DID	
- RDR Virtual Disk 1 RDR Virtual Disk 2	Clear Soft MTBF Resynchronize This Set As Active RDR F	Physical Disk From RDF	Virtual Disk	Slot5 Empty	Slot7 Empty	
-		PCI module 11				
		Slot0 279,4 GB Duple× (LUN 39/1)	Slot2 Empty	Slot4 Empty	Slot6 Empty	
		Slott 279.4 GB Online	Slot3 Empty	Slot5 Empty	Slot7 Empty	

Important When "An internal error occurred. The current RDR Virtual Disk operation cannot be completed." was indicated at the time of this operation, "Initialize Disk" seems not to have been performed to a target disk beforehand. Confirm the state of a target disk in Disk Management.

In addition, there are cases a target disk is initialized by MBR at the time of this operation. In that case, after converting to the same disk style as the synchronization source, do this operation again.

9. Click **OK**.

Add Physical Disk To RDR Virtual Disk 💌
(i) This operation was completed.
ОК

10. Verify that disk synchronization has started and the status of the DISK ACCESS LED and RDR Utility display changes as the following table.

	DISK ACCESS LED	RDR Ut	ility
	DISK ACCESS LED	Op State: State	Status
Source disk	Blinking amber and green	Simplex (partition exists)	
Source disk	Green (Blinking)	Online (no partition exists)	_
Destination disk	Blinking amber and green	Syncing	_
RDR Virtual Disk	_	Simplex	Resync x % (x=0,4,8,…96)

Synchronizing

Tips

DISK ACCESS LED is lit green when hard disk drive is accessed.

If access is made while synchronization is in progress (LED is blinking amber), it seems that the green and amber LEDs are lit alternately.

 The time required for synchronization varies depending on the partition size on the disk.

For a 279 GB partition, it takes about 160 minutes. When no partition exists on the disk, synchronization is completed immediately after the RDR is set, and **Op State: State** changes to **Duplex**.

However, when the dynamic disk is used, the time required for synchronization depends on the disk size regardless of whether or not a partition exists. For a 279 GB disk, it takes about 160 minutes.

PCI module 10	Name	N	/alue		
SCSI Enclosure	DevicePathID		9/2		
- Slot 0 - Harddisk0-LUN1-PLEX0	Op State: State		implex		
Slot 1 - Harddisk1-LUN2-PLEX0	Op State: Reason		lone		
··· Slot 2	Vendor	s	itratus		
··· Slot 3	ProductID	0	ata Duplex LUN		
Slot 4 Slot 5	Product Revision Level	9			
Slot 5 Slot 6	SerialNumber	7	d93dbb9-df9a-4d19-9e91-d3	3220509f803	
Slot 6	Capacity	2	79.4 GB		
PCI module 11	ObjectName	F	larddisk 1		
SCSI Enclosure	Caption	F	RDR Virtual Disk 2		
Slot 0 - Harddisk0-LUN1-PLEX1	DevicePath[1]	1	0/40/2/1		
Slot 1 - Harddisk 1-LUN2-PLEX1	DevicePath[2]		1/40/2/1		
- Slot 2	ActiveRDRPlex		Harddisk 1-LUN2-PLEX0		
- Slot 3	ReadLoadBalancing	-	n		
Slot 4	ResyncLUNPriority		lomal		
- Slot 5 - Slot 6	Status	F	Resync 0%		
Slot 5	PCI module 10				
Logical Disk Information	Slot0 279.4 GB	Slot2	Slot4	Slot6	
RDR Virtual Disk 1	Duple× (LUN 39/1)	Empty	Empty	Empty	0 FT 0 ID
	Slot1 279.4 GB	Slot3	Slot5	Slot7	
	Simplex (LUN 3972)	Empty	Empty	Empty	9
	DO NOT REMOVE				. 🖸
	PCI module 11				!!
	Slot0 279,4 GB Duplex (LUN 39/1)	Slot2	Slot4	Slot6	ļ
	Duplex (LON 3971)	Empty	Empty	Empty	
	Slot1 279.4 GB	Slot3	Slot5	Slot7	
	Syncing (LUN 39/2)	Empty	Empty	Empty	

Important

- If the system is rebooted during synchronization, the process cannot be completed. Do not restart the system until the synchronization is completed.
- When the system is halted without shutting down Windows properly due to forced shutdown or others, the entire area of the partition on the synchronized disks will be resynchronized after the system is restarted.

Synchronization completed

		RDR Ut	ility
	DISK ACCESS LED	Op State: State	Status
Source disk	unlit (Lights green when accessing the disk drive)	Duplex or Online	_
Destination disk	unlit (Lights green when accessing the disk drive)	Duplex or Online	_
RDR Virtual Disk	_	Duplex	None

Tips

DISK ACCESS LED is lit green only when hard disk drive is accessed. If no access is made, the LED seems to be unlit.

PCI module 10	Name	V	alue		
SCSI Enclosure	DevicePathID		9/2		
Slot 0 - Harddisk0-LUN1-PLEX0	Op State: State		uplex		
Slot 1 - Harddisk1-LUN2-PLEX0	Op State: Reason		one		
- Slot 2	Vendor		tratus		
- Slot 3	ProductID	-	ata Duplex LUN		
- Slot 4	Product Revision Level				
- Slot 5	SerialNumber	-	d93dbb9-df9a-4d19-9e91-d	22205006002	
- Slot 6	Capacity		79 4 GB	32203031003	
- Slot 7	ObjectName	-	arddisk 1		
PCI module 11	Caption		DR Virtual Disk 2		
SCSI Enclosure	DevicePath[1]		0/40/2/1		
 Slot 0 - Harddisk0-LUN1-PLEX1 Slot 1 - Harddisk1-LUN2-PLEX1 	DevicePath[2]		1/40/2/1		
- Slot 1 - Harddisk I-LUNZ-PLEXT	ActiveRDRPlex		arddisk 1-LUN2-PLEX0		
- Slot 3	ReadLoadBalancing		n		
Slot 4	ResyncLUNPriority	-	omal		
-Slot 5	Status		one		
- Slot 6					Kol
Slot 7	PCI module 10				®
Logical Disk Information	Slot0 279.4 GB Duple× (LUN 39/1)	Slot2	Slot4	Slot6	0.4
RDR Virtual Disk 1 RDR Virtual Disk 2	Duplex (LUN 3971)	Empty	Empty	Empty	D FT D ID
	Slott 279.4 GB	Slot3	Slot5	Slot7	
	Online (LUN 3972)	Empty	Empty	Empty	
	PCI module 11	, ,		·	
	Slot0 279.4 GB	Slot2	Slot4	Slot6	
	Duple× (LUN 39/1)	Empty	Empty	Empty	
	Slot1 279.4 GB	Slot3	Slot5	Slot7	

4.10 Creating Volume

For NEC Express5800/ft series, you need to set mirroring for each disk by the RDR function. If you created a new partition or volume on the disk that has been set RDR and dual configuration, the area is mirrored automatically. You do not need to perform mirroring for each partition or volume.

There are notices as follows about Creating Volume.

- When setting RDR in the ft control software version 11.2.xxxx, there are cases a RAW volume is created with the size of 1MB, which is displayed on **Disk Management**. There is no problem with deleting that volume.
- When converting a disk with RDR setting to a dynamic disk in the ft control software version 11.2.xxxx, there
 are cases a RAW volume is created with the size of 1MB. When that volume exists and you are going to
 make a new volume on the dynamic disk, the following error message is displayed and you can't make a
 volume.



Please perform following procedure to make a volume on the dynamic disk.

- 1. From Start Screen, select Administrative Tools and start Computer Management. On the tree in the left pane, click Disk Management.
- 2. Convert a target disk with RDR setting to a dynamic disk.
- 3. Right-click and delete a RAW volume with the size of 1MB in displayed volumes on the upper row of the screen. (Refer to red frame in the following example.) If some volumes exist, delete those all.

2				Disk Management		
File Action Vi	ew Help					
(= -) 📰 🛛	🗊 🕼 📽 📓					
Volume	Layout	Туре	File System	Status	Capacity	Free Space
	Simple	Basic		Healthy (Recovery Partition)	300 MB	300 MB
	Simple	Basic		Healthy (EFI System Partition)	99 MB	99 MB
	Simple	Basic	RAW	Healthy (Primary Partition)	1 MB	1 MB
	Simple	Dynamic	RAW	Healthy	1 MB	1 MB
(C;)	Simple	Basic	NTES	Healthy (Boot, Page File, Crash Dump, Primary Partition)	837.67 GB	815.75 GB

- 4. By operation of 3, it returns to a basic disk, so convert to a dynamic disk once again.
- 5. Make a new volume.
- A mirrored volume (RAID-1) or RAID-5 volume cannot be used on a dynamic disk. When a mirrored volume (RAID-1) or RAID-5 volume was built on a dynamic disk, the System FT LED and Safe To Pull LED indicating the status of the ft server may not be displayed correctly, and information of duplex and simplex status of the PCI module may not be output to the event log properly. If you are going to use a dynamic disk, convert only a data disk to a dynamic disk and build as a simple volume, spanned volume, or striped volume.

4.11 Installing Bundled Software for the Server

NEC ESMPRO Agent and NEC ESMPRO Manager are contained in EXPRESSBUILDER.

Make sure that the installed utilities are shown on **Start Screen** - \bigcirc - **All Programs screen**. If you did not install these utilities during setup with EXPRESSBUILDER, install them individually by according to *Chapter 2* (*Installing Bundled Software*).

4.12 Enabling OS Boot Monitoring Feature

Enables OS Boot Monitoring feature.

Set OS Boot Monitoring feature to **Enabled** on BIOS SETUP according to *Chapter 1 (4.1.3 Disabling OS Boot Monitoring Feature)*. Then, specify the timeout time for **OS Boot Monitoring Timeout** parameter appropriately.

Main Advanced Security Server Boot Save & Exit	
System Management Power Control Configuration Event Log Configuration FRB-2 Timer [Enabled] PCI Enumeration Monitoring Timeout Option ROM Scan Monitoring Timeout Option ROM Scan Monitoring Timeout OS Boot Monitoring Timeout OS Boot Monitoring Timeout OS Boot Monitoring Timeout POST Pause Monitoring Timeout POST Pause Monitoring Timeout POST Forma Monitoring Monitoring Timeout POST Forma Monitoring Monitoring Monitoring Timeout POST Forma Monitoring	F1: General Help F4: Save & Exit Setup ESC: Exit

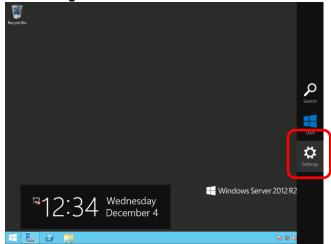
4.13 License Authentication

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

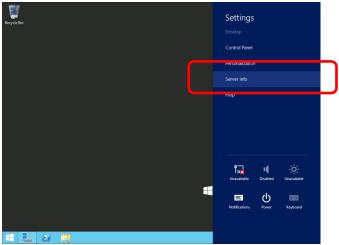
Confirm if your license is authenticated. If not, perform the following procedures to have your license authenticated.

Connect to the Internet to perform the authentication procedure. Or, use the telephone to perform the authentication procedure.

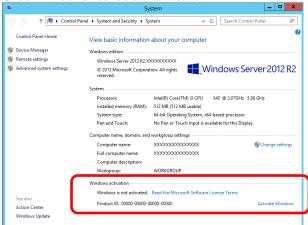
1. Click Settings on the Charms bar.



2. Click Server info.



3. Check Windows license authentication.



- If "Windows is activated" is displayed:
 You do not need to perform this procedure.
- □ If "Windows is not activated" is displayed:
 - When the server is connected to the Internet: Go to step 4.
 - When the server is not connected to the Internet: Go to step 5.
- When the server is connected to the Internet, perform the license authentication by using the following procedure.
 - 4-(1) Click Activate Windows.

Computer name:	*****	The settings
Full computer name:	XXXXXXXXXXXXXXXXXXX	
Computer description:		
Workgroup:	WORKGROUP	
Windows activation	. Read the Microsoft Software License Terms	
Product ID: 00000-00000-	00000-00000	Activate Windows

4-(2) Enter the product key.

Recycle Bin	
	Enter a product key
	Your product key should be on the box that the Windows DVD came in or in an email that shows you bought Windows.
	The product key looks similar to this: PRODUCT KEY, 100000-300000-300000-300000
	Product kny Dashes will be added automatically
	Cancel
	🖶 Windows Server 2012 R2
	1227 AM

License is activated after entering the product key. Complete license authentication process according to the message.

- 5. When the server is not connected to the Internet, perform the license authentication by using the following procedure.
 - 5-(1) Launch the command prompt with an administrator right, enter the following command.

slmgr /ipk <product key>

5-(2) Activate your license by phone. Open Run, type "slui 4", and then press the <Enter> key."

	Run 📃
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	slui 4 🗸 🗸
	W This task will be created with administrative privileges.
	OK Cancel <u>B</u> rowse

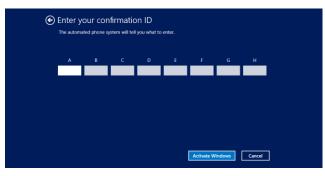
5-(3) On the next screen, select your country, and then click Next.

Select your countr	y or region		
Afghanistan	~		
		Next	Cancel

Acquire the installation ID required for license activation.



5-(4) Call the Microsoft license activation hotline and then click Activate Windows.



4.14 Confirming the ft Server Control Software Version

Perform the procedure when you need to check the ft Server Control Software version of the current system before adding devices to NEC Express5800/ft series or updating ft Server Control Software.

Confirm the version following the steps below, and take a note of the displayed version number.

Version: ____.__.

- 1. Sign in to the system with an account that has administrator privilege.
- 2. Open Control Panel from the Start screen.
- 3. Open Programs and Features.

If the **Programs and Features** icon is not displayed, open **Programs** and click **Programs and Features**.

4. Check the version of **ft Server Control Software** from the list of programs.

4.15 Setting TCP/IP Timeout

Timeout values of TCP/IP are changed at setup by adding the following registries on Express5800/ft series.

HKLM\System\CurrentControlSet\Services\Tcpip\Parameters

Value: TcpMaxDataRetransmissions

Type: REG_DWORD

Default: 8

This setting is required if Hyper-V is enabled.

If you are not using Hyper-V on your server, this setting is not required. To restore the factory-set value, run the following batch file with administrator account, and restart the server.

C:\Program Files\NEC\HAS_SW\SUPPORT

SetTcpMaxDR_OsDef.bat

To restore the factory-set value, run the following batch file with administrator account, and restart the server.

C:\Program Files\NEC\HAS_SW\SUPPORT

ResetTcpMaxDR_FtDef.bat

4.16 Setting up status notification function of ft server

Express5800/ft server monitors duplexing status of ft server with ESMPS service, and outputs the status to event log. Change the settings for monitoring ft server status depending on your server operation.

Note When you change setting by the following procedure, ESMPS service is restarted. At two cases, system event log of ESMFTPolicy is registered with ESMPS starting.
1. When endurance of SSD is in critical range, the event of ID:1103/1113 is registered.
2. When module or PCI module is simplex state, the event of ID:2050 is registered.

4.16.1 Event log registration setting while SSD needs to be replaced

ESMPS service of R320f monitors endurance of SSD installed on ft server. You can change the setting to either register to event log only once when the endurance is short (less than 10%), or register to event log every day until the target SSD is replaced.

This event log is target of Express report service / Express report service (HTTPS). In case of registering to event log every day, thus there is concern incurring communication fee or stress to the system because report will be sent every day. Therefore **Register to event only once** is selected by default.

In case you are doing maintenance and operation management by yourself, without using Express report service/Express report service (HTTPS), it is recommended to change the setting to the process number 1(When SSD needs to be replaced: Change to "Register to event every day") in the step 3 in procedures to change continuous notification setting of alert status of ESMPS service. It enables you to replace the SSD before it becomes unwritable because of its endurance.

To revert the setting to its default, execute process number 2 in the step 3 below.

Note

If you do not use SSD, endurance of disk will not be monitored, thus you do not need to change this setting.

(Procedures to change continuous notification setting of alert status of ESMPS service)

- 1. Sign in with an account that has Administrator role.
- 2. Execute ESMPS_AlertRemind.BAT in C:\Program Files\ftsys\Utility, and press any key to continue the process after the message shown below is displayed.

This batch file changes the setting of the status notification function of the ft server. When stopping change, please click a close box [x] in the upper right of this window.

Press any key to continue...

- 3. Input desired process number $(1 \sim 6)$ following the message.
- ESMPS service will be restarted to reflect the setting. Press any key after the message shown below is displayed to back to the message display in step 3.

Enable SSD AlertRemind setting has been completed.

Press any key to continue...

5. When setting is completed, execute process number 7 to quit the batch. It is not necessary to restart the system to apply this module.

4.16.2 Event log registration setting while module continues simplex status

ESMPS service of R320f is set to register that module continues simplex status to event log every day to prevent system failure caused by malfunctions of multiple parts.

Though it is not recommended for stable duplexing operation of the system, if you want to change the setting not to register to the event log every day, but to "Register to event only once", execute process number 4(When CPU simplex status continues: Change to "Register to event only once") and process number 6(When PCI simplex status continues: Change to "Register to event only once") in the step 3 in Procedure to change continuous notification setting of alert status of ESMPS service below.

To revert the setting to its default, execute process number 3 and 5 in the step 3 below.

(Procedure to change continuous notification setting of alert status of ESMPS service)

- 1. Sign in with an account that has Administrator role.
- 2. Execute ESMPS_AlertRemind.BAT in C:\Program Files\ftsys\Utility, and press any key to continue the process after the message shown below is displayed.

```
This batch file changes the setting of the status notification function of the ft server. When stopping change, please click a close box [x] in the upper right of this window.
```

Press any key to continue...

- 3. Input desired process number $(1 \sim 6)$ following the message.
- ESMPS service will be restarted to reflect the setting. Press any key after the message shown below is displayed to back to the message display in step 3.

Disable CPU AlertRemind setting has been completed.

Press any key to continue...

5. When setting is completed, execute process number 7 to quit the batch. It is not necessary to restart the system to apply this module.

4.17 Checklist Display Function at Installation

The server has a factory-installed feature that displays Setup Checklist during installation to support configuration work. This feature starts after ft Server Control Software is installed at re-installation.

Using this checklist, you can proceed to setup work while viewing the items required for setup.

(1) Displaying setup list

When you sign in the system with built-in Administrator account, **ft Server Setup list** automatically appears. The checklist appears every time you sign in the system unless you specify not to display at next sign in.

The first line of dialog shows the version of ft Server Control Software. The version number depends on the time of shipment and software upgraded status.

٩	ft Server Setup list	- • ×
	are [Version :10	below to complete
I Install NEC ESM	IPRO Agent	
2. Install Options (L	LAN, SAS, Fibre Channel board)	
3. Update Software	e	
4. Configure duples	x LAN	
5. Configure dual 0	Disk	
6. Create Volume		
7. Change setting of	of SNMP service for NEC ESMPRO Ager	rt -
8. Enable OS Boot	Monitoring	
9. Setup for Solvin	g Problems	
10. Back up System	n Information	
for example, system r - When ARCserve Bac	here is installed, system may not operate i may not become duplex. ckup or Backup Exec is installed, if the se ares have started before system becomes	ervices of
	res nave scared before system becomes me duplex or the backup software may n	
This dialog is displayed until all checkbox is ch		History

Setup Check List

The following item is checked automatically, and if installation of it is finished, it is dimmed.

1. Install NEC ESMPRO Agent

For the other items, click the checkbox to check it when you have finished setup of relevant item.

If you put a mouse onto check item, a help window that shows the page where detailed information is described in User's Guide or Installation Guide.

If all items are checked, a checkbox "Hide this dialog at next logon" appears at bottom of dialog. If you do not want to display this checklist, click the checkbox and close dialog.

	ft Server Setup list	-	•	×
Refer to the Inst	Software [Version :10	elow to cor	nplete	
I Install NE	EC ESMPRO Agent			
2. Install Op	otions (LAN, SAS, Fibre Channel board)			
☑ 3. Update S	Software			
4. Configure	e duplex LAN			
5. Configure	e dual Disk			
G. Create V	olume			
7. Change s	setting of SNMP service for NEC ESMPRO Agent	6		
🕑 8. Enable C	OS Boot Monitoring			
9. Setup for	r Solving Problems			
✓ 10. Back up	System Information			
for example, s - When ARCse these backup	ocAnywhere is installed, system may not operate n system may not become duplex. arve Backup or Backup Exec is installed, if the ser o softwares have started before system becomes d ot become duplex or the backup software may no	vices of tuplex,		
	ant to show this dialog at next logon,		History	
A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O	ne following checkbox. slog at next logon.		Close	

When all items are checked:

This checklist is not displayed during update of ft Server Control Software.

(2) Re-displaying setup checklist

If you want to open the dialog again, sign in the system with built-in Administrator account, and run the following file.

C:\Program Files\NEC\HAS_SW\ftServerSetuplist

ftServerSetupList.exe

Only the user having built-in Administrator account can open this checklist, and can start only one at a time.

(3) Displaying check history

Click the History button to confirm the date and time each item was checked.

4	History	_ 🗆 X
No 01 02 03 04 05 06	Date 3/10/2014 11:28:58 AM 3/10/2014 11:58:26 AM 3/10/2014 12:35:11 PM 3/10/2014 12:38:52 PM 3/10/2014 1:03:23 PM 3/10/2014 1:12:24 PM	Check A ON (Auto) ON ON ON ON ON
07 08 09 10	3/10/2014 1:28:35 PM 3/10/2014 1:49:05 PM	ON OFF(Initial) OFF(Initial)
<	111	Close

Check history

Check column displays:

ON:	Item that was checked
ON (Auto):	Item that was checked automatically
OFF (Initial):	Item that is not checked yet
OFF:	Item that was checked once but unchecked later

5. Setting Up Windows Server 2008 R2

Set up Windows Server 2008 R2.

5.1 Before Starting Setup

5.1.1 Precautions

Read through the precautions explained here before starting setup.

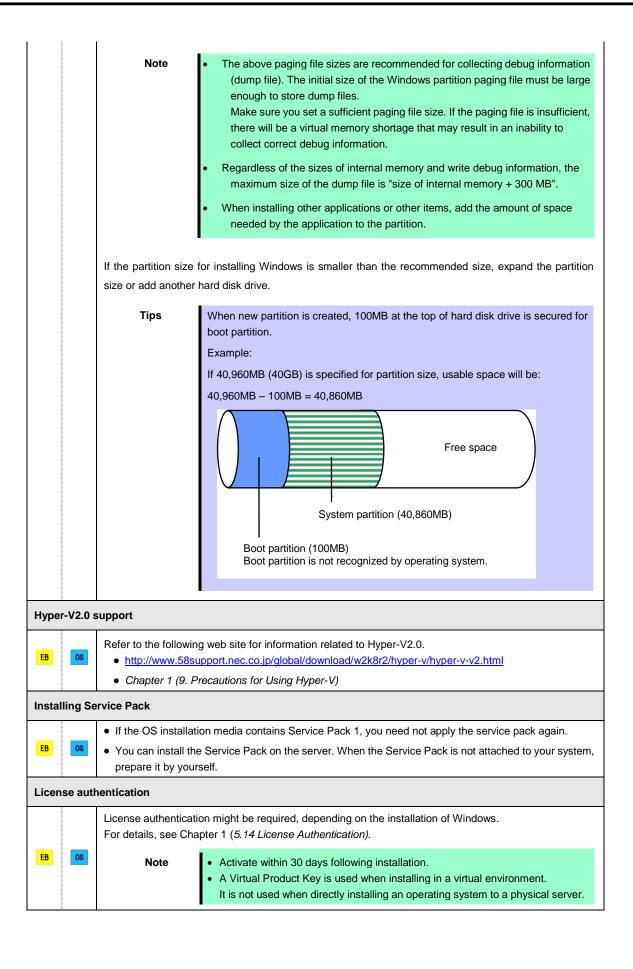
ED.	Confirme during Octors with EVDDECODUM DED
EB	: Confirm during Setup with EXPRESSBUILDER

OS : Confirm during Setup with Windows standard installer

BIOS setting		
		Change Boot Mode to Legacy Mode . See <i>Chapter 3 (1. System BIOS)</i> in <i>Maintenance Guide</i> for details.
EB	OS	$\textbf{Boot} \rightarrow \textbf{Boot} \ \textbf{Mode} \rightarrow \textbf{Legacy}$
		Note The [Boot Mode] setting is set to [UEFI] when [Load Setup Defaults] in BIOS Setup Utility (SETUP) is executed. Change the setting to [Legacy] again at that time.
Change Boot Mode to XHCI Mode. See Chapter 3 (1. System BIOS) in Maintenance G Boot \rightarrow Advanced \rightarrow USB Configuration \rightarrow XHCI Mode \rightarrow Disabled		Change Boot Mode to XHCI Mode. See Chapter 3 (1. System BIOS) in Maintenance Guide for details. Boot \rightarrow Advanced \rightarrow USB Configuration \rightarrow XHCI Mode \rightarrow Disabled
EB	OS	Note The [XHCI Mode] setting is set to [Auto]when [Load Setup Defaults] in BIOS Setup Utility (SETUP)is executed. Change the setting to [Disabled] again at that time.
Hard	ware co	onfiguration
The fo	ollowing	hardware configurations require special procedures.
EB Media such as LTO, and similar media		Media such as LTO, and similar media
		Do not set media such as LTO during setup.
EB	05	 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, use Windows standard installer for setup, and allocate the required file space to multiple disks by performing the following steps. Set the system partition size to a size sufficient to install the OS and paging file. Specify another disk as destination to store the debug information (required dump file size) by referring to <i>Chapter 1 (6. Setup for Solving Problems)</i>.

Note	If the partition size for installing Windows is smaller than the size to instal and paging file, expand the partition size or add another hard disk drive.
	pace cannot be secured for the paging file, perform either of the following after sett ws Standard Installer is complete.
	y a hard disk drive other than the system drive as the location to store the pagin ing memory dump.
	e a paging file of the installed memory size + 300 MB or more in a drive other n drive.
as f "ins	e paging file that exists in the first drive (in the order of drive letter C, D, E,) is use the temporary memory dump location. Therefore, the size of the paging file must be stalled memory size + 300 MB" or more. Paging files in dynamic volumes are not use dumping memory. The setting is applied after restarting the system.
	Example of correct setting
	 C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or more → The paging file in drive D can be used for collecting memory dump because its size satisfies the requirement.
	Example of incorrect setting 1
	C: Paging file whose size is smaller than the installed memory size D: Paging file whose size is "installed memory size + 300 MB" or more
	→ The paging file in drive C is used for collecting memory dump, but collection may fail because the size of the paging file is smaller than the installed memory size.
	Example of incorrect setting 2
	C: Paging file whose size is "installed memory size × 0.5" D: Paging file whose size is "installed memory size × 0.5" E: Paging file whose size is 300 MB
	→ The total paging file size in all drives is "installed memory size + 300 MB", but collection may fail because only the paging file in drive C is used for collecting memory dump.
	Example of incorrect setting 3
	C: No paging file exists D: Paging file whose size is "installed memory size + 300 MB" or more (in dynamic volume)

		 Specify a drive other than the system drive for "Dedicated Dump File".
		Create the registry shown below by using the Registry Editor and specify the name of Dedicated Dump File.
		<when "dedicateddumpfile.sys"="" d="" drive="" file="" in="" named="" specifying="" the=""></when>
		Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
		Name: DedicatedDumpFile
		Type: REG_SZ
		Data: D:\dedicateddumpfile.sys
		Note the following when specifying Dedicated Dump File:
		Pay strict attention to edit the registry.
		The setting is applied after restarting the system.
		• Specify a drive that has free space of "installed memory size + 300 MB" or more.
		Dedicated Dump File cannot be placed in dynamic volumes.
		To collect memory dump by using Dedicated Dump File, a paging file is required in any
		drive.
		Dedicated Dump File is only used for collecting memory dump, and is not used as virtual
		memory. Specify the paging file size so that sufficient virtual memory can be allocated in
		the entire system.
0		·
Syste	em part	tition size
EB	OS	The system partition size can be calculated by using the following formula.
		OS size + paging file size + dump file size + application size
		OS size = 15,600MB
		OS size = 15,600MB (Windows Server 2008 R2 + Service Pack 1)
		= 8,400MB
		(Windows Server 2008 R2 with Service Pack 1)
		Paging file size (recommended) = installed memory size \times 1.5
		Dump file size = installed memory size + 300MB
		Application size= as required by the applicationDedicated Dump File size (default)= 8,193MB
		For example, if the installed memory size is 1 GB (1,024 MB) and application size is 100 MB, and the full
		installation is selected, the partition size is calculated as follows:
		8,400MB + (1,024MB × 1.5) + 1,024MB + 300MB + 100MB + 8,193MB = 19,553MB
		The above mentioned partition size is the minimum partition size required for installing Windows. Ensure that the partition size is sufficient for system operations.
		Ensure that the partition size is sufficient for system operations.
		Ensure that the partition size is sufficient for system operations. The following partition sizes are recommended.



When compressing system drive			
	08	Do not compress t	he root directory and the Windows directory.
EB		Tips	The Windows Server 2008 R2 directory is labeled as "Windows".
			e root directory and the Windows directory, operational stability cannot be ensured ows File Protection (WFP) may replace an unassigned driver with a signed driver.

5.1.2 Preparation

The following steps are required to prepare for re-installing an OS (setup with EXPRESSBUILDER or Windows standard installer):

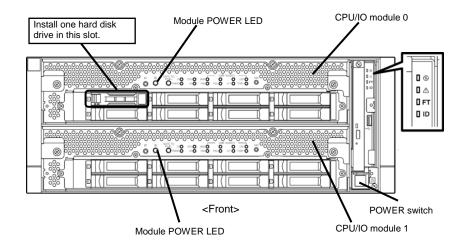
- 1. If the Module POWER LED on CPU/IO module is on, shutdown the OS.
- 2. Unplug the power cord from outlet while the Module POWER LED is blinking.
- 3. Perform the preparation process for the server as shown below.
 - Install CPU/IO modules 0 and 1.
 - Install a hard disk drive in slot 0 of CPU/IO module 0.
 - Disconnect all LAN cables.
 - Disconnect the cable for tape device from the connector on SAS board.
 - Disconnect the cable for device from the connector on Fibre Channel board.

Important

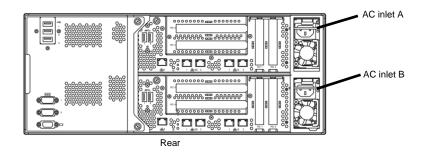
- Install only one hard disk drive in the slot specified here.
 - If the hard disk drive is not a new one, physically format it. See Chapter 3 (3.3 Physical Formatting of the Hard Disk Drive) in Maintenance Guide for physical formatting.
- 4. Prepare for setup on CPU/IO module 0.

The location of components that are required for setup or confirmation is as shown in the figure below.

Install only one hard disk drive in CPU/IO module 0. Do not install any hard disk drive in CPU/IO module 1.



- 5. Connect power cords to the server in the following order.
 - (1) Connect a power cord to AC inlet A.
 - (2) Connect a power cord to AC inlet B.
 - (3) Make sure that POWER LED on each module is blinking in green.



Note

If you disconnect the power cord, wait at least 30 seconds before connect it again.

5.1.3 Disabling OS Boot Monitoring Feature

The following steps are required for installing/re-installing Windows:

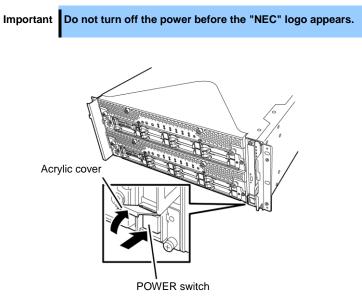
	OS Boot Monitoring feature is enabled by the shipping default. Setup process will fail if this feature is enabled.
Tips	For details of operations for BIOS Setup Utility and parameters for boot monitoring function, see <i>Chapter 3 (1. System BIOS)</i> in <i>Maintenance Guide</i> .

1. Turn on the display and the peripheral equipment connected to the NEC Express5800/ft series.

If the power cords are connected to a power controller like a UPS, make sure that it is powered on.

- 2. Remove the front bezel.
- 3. Press the POWER switch located on the front side of the server.

Lift the acrylic cover, and press the POWER switch.



After a while, the "NEC" logo will appear on the screen.

Tips	While the "NEC" logo is displayed on the screen, NEC Express5800/ft series performs a power-on self test (POST) to check itself. OS starts upon completion of POST.For details, see <i>Chapter 3 (1.1 POST Check)</i> in <i>User's Guide</i>.
Note	If the server finds errors during POST, it will interrupt POST and display the error message. See Chapter 1 (6.2 POST Error Messages) in Maintenance Guide.

4. When POST proceeds, the following message appears at lower left of the screen.

Press <F2> SETUP, ... (The on-screen message depends on your system environment.)

If you press <**F2**>, SETUP will start after POST, and the Main menu appears. (You can also start SETUP by pressing <**F2**> key while expanding option ROM.)

Example:

Aptio Setup Ut. Main Advanced Security Se	ility – Copyright (C) 2012 Amer arver Boot Save & Evit	ican Megatrends, Inc.
	e ver boot save a Exit	
BIOS Information		Set the Date. Use Tab to
BIOS Version	6.0:34	switch between Date elements.
Build Date Access Level	05/30/2012 Administrator	
HUCESS LEVEL	Huministrator	
Memory Information		
Total Memory	16384 MB	
	[Thu 06/28/2012]	
System Time	[13:51:11]	
		F1: General Help
		F4: Save & Exit Setup
		ESC: Exit
Vencion 2 14	1219n Copyright (C) 2012 Americ	an Meratmende - The

5. When you move the cursor onto Server, the Server menu appears.

Aptio Setup Util Main Advanced Security Ser	ity – Copyright (C) 2012 Americ ver Boot Save & Exit	an Megatrends, Inc.
	Enabled] [Enabled] [Enabled] [Enabled] [Enabled]	F1: General Help F4: Save & Exit Setup ESC: Exit
Version 2.14.12	19n Copyright (C) 2012 American	Megatrends, Inc.

- 6. Move the cursor onto OS Boot Monitoring and press Enter.
- 7. Among the parameters, choose **Disabled** and press Enter.

8. Move the cursor onto Save & Exit, the Save & Exit menu appears.

Aptio Setup Utility – Copyright (C) 2012 Main Advanced Security Server Boot <mark>Save & Exit</mark>	American Megatrends, Inc.
Save & Exit Options Save Changes and Exit Discard Changes Discard Changes Load Setup Defaults	Exit system setup after saving the changes.
Version 2.14.1219n Copyright (C) 2012 Am	F1: General Help F4: Save & Exit Setup ESC: Exit

9. Select Save changes and Exit.

On the confirmation window shown below, select Yes to save parameters and exit SETUP.

System reboots when SETUP completes.

Save configuration and exit?					
[Yes]	No				

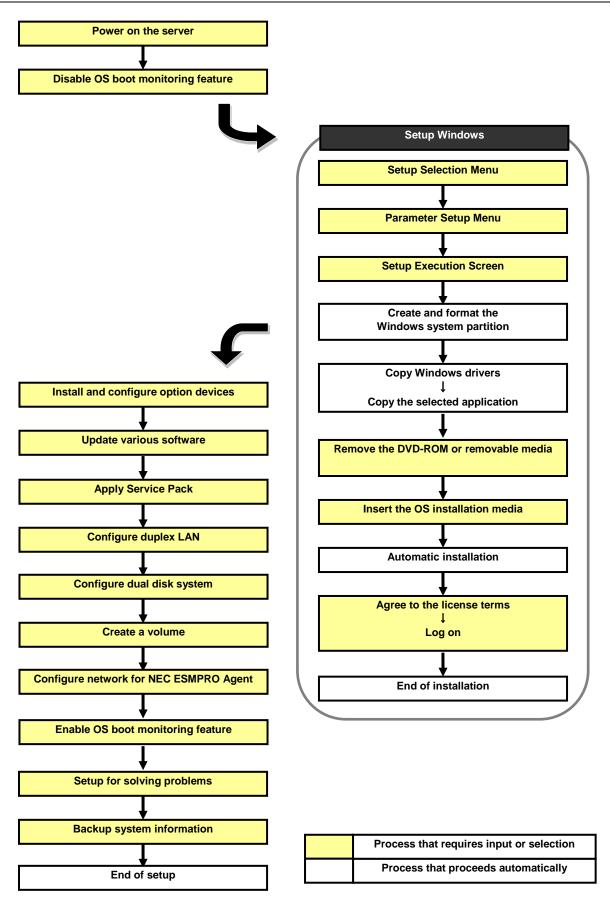
Now OS Boot Monitoring function is disabled.

5.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

Important	 Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following: Partition Settings in the Windows Setup wizard Backing up user data, as needed, is recommended. Before starting setup, be sure to disconnect hard disk drives that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup. Although some dialog boxes and popup windows are displayed during installing ft Server Control Software in Setup, do not operate from the keyboard and the mouse. Installation is continued automatically. Do not operate especially although the following dialog is displayed. When installation is stopped with operation of a keyboard or a mouse, there is a possibility that OS does not start normally.
	You must restart your computer to apply these changes Before restarting, save any open files and close all programs. Restart Now Restart Later
Note	The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER. The setting of SNP function may affect the system performance. Contact your sales representative for details.
Tips	 Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media. For details on creating a parameter file, see <i>Chapter 1 (7. Windows OS Parameter File)</i>.

5.2.1 Setup flow



5.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

(If your OS install media does not contain Service Pack 1, prepare it.)

- First Steps Guide
- EXPRESSBUILDER DVD
- > ft Server Control Software UPDATE media

Used to update ft Server Control Software. This might not be provided with your server.

Prepare if needed:

Removable media for Windows OS parameter file

Service Pack

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

> ft Server Control Software update module

See Chapter 1 (5.8.1 Applying ft Server Control Software Update Module) for more information.

5.2.3 Before setting up

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

Note

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

5.2.4 Setup procedure

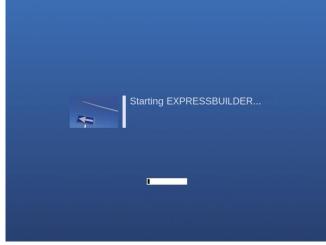
- 1. Prepare for setup according to Chapter 1 (5.1.2 Preparation).
- 2. Be sure to disable OS Boot Monitoring feature according to *Chapter 1 (5.1.3 Disabling OS Boot Monitoring Feature)*.

Important OS Boot Monitoring feature is enabled by the shipping default. Setup process will fail if this feature is enabled.

- 3. Turn the display unit power on, and then turn the server power on.
- 4. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 5. When the following message appears, select OS installation *** default ***.

Boot selection
OS installation *** default *** Tool menu
Automatic boot in 7 seconds

The following window appears.



The server starts from EXPRESSBUILDER.



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



7. Click Setup.

Setup	Setup	₽
•	Versions	
O	Exit	

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

1	Select an operating	g system to inst	tall.
	Click Manual Selection to	configure a RAID array	only)
	Automatic De	tection	
] Manual Selec	tion	
G	Load Settings		
			Sett

□ When *not using* a parameter file : Select **Automatic Detection**, and then go to Step 9. Select **Manual Selection**, and then go to Step 10.

 \Box When using a parameter file : Select Load Settings, and then go to Step 11.

- **Note** When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.
- 9. When *not using* a parameter file, let the OS on the installation media be recognized by using the following procedure.
 - 9-(1) Click Automatic Detection.

Select an operating system to insta	all.
(Click Manual Selection to configure a RAID array of	nly)
Automatic Detection	<i>"</i>
Select an operating system automatically with an installation disc.	
Load Settings	
	Setup

10-(1)

9-(2)	Insert t	he OS instal	lation media	a, and ther	n click OK .	
		S selection	2 Settings	3 Confirmation	4 Installation	
		3 Selection				
		100000	the OS installation disc ESSBUILDER will detect		nstall.	
				[Messa	ge ID : B2014]	
		0				
			ОК	Cancel	Set	กกล
		2				
9-(3)	Click	\supset on the rig	ht side of th	ne screen	\rightarrow Go to ste	эр 12.
		1	2	3	4	

	lect an operating system to insta	
e	Automatic Detection	
	Manual Selection	
	Load Settings	

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

ual Select	ion.			
1 OS selection	2 Settings	3 Confirmation	4 Installation	
e a	utomatic De	etection		
	lanual Selec	tion	ß	
You can sele the installation	ct the target OS of in from the menu.	•		
			Set	up.
	Cick M	Select an operating (Click Manual Selection to Manual Selection Manual Selection Frou can selection target 05 of	1 2 3 Confirmation Settings Confirmation 1 Select an operating system to instruction Click Manual Selection to configure a RAID array of Automatic Detection Image: Contract of the selection Manual Selection Image: Contract of the selection Manual Selection	1 2 3 4 2 3 4 Installation 3 Select an operating system to install. (Click Manual Selection to configure a RAID array only) Image: Click Manual Selection Automatic Detection Image: Click Manual Selection Image: Click Manual Selection

10-(2)	From the pull-down menu, select Windows Server 2008 R2, and the
	1 2 Selection 2 Settings 3 Confirmation 4
	Selection
	Select an operating system to install.
	Windows Windows Server 2008 R2 0
	○ VMware
	OK Cancel
10-(3)	Click \bigcirc on the right side of the screen. \rightarrow Go to step 12.
	1 Selection 2 Settings 3 Installation
	Select an operating system to install.
	(Click Manual Selection to configure a RAID array only)
	Automatic Detection
	Automatic Detection
	Manual Selection
	Load Settings

en click **OK**.

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

OS selecti	on 2 Settings 3 Installation	
Se	lect an operating system to install.	
(Clic	k Manual Selection to configure a RAID array only)	
Ľ	Automatic Detection	
	Manual Selection	
₿	Load Settings	
Load in	stallation settings.	
	Set	tuj

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

Places Name	✓ Siz	e Modified	
Search Cdrom1			
Recently Used			
🗊 root			
2 Desktop			
File System			
Documents			
Music			
Pictures			
Videos			Ξ
Downloads			
Add Remove			Ľ
	Cancel	Open	-

Tips

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

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

1		lect an operating			
'	(Clie	ck Manual Selection to co	nfigure a RAID array o	only)	
	Ľ	Automatic Dete	ection		(
		Manual Selecti	on		
~	₿	Load Settings			

11-(4) When the parameter file is correctly loaded, click \bigcirc on the right side of the screen. \rightarrow Go to step 15.

Click **Custom** to check and modify the setting in the wizard. \rightarrow Go to step 14-(1).

2	Enter installation settings.	
<u>د</u>	Default	
v ø	Custom	

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

□ When selecting Default : Go to	Step 13.
□ When selecting Custom : Go to	Step 14.

OS sele	tion Settings Confirma	ation
2 -	nter installation settings.	
0	Default	
6X	Custom	

13. Click Default.

	1 2 3 OS selection Settings	rmation Installation
	2 Enter installation settings.	
\bigcirc	Default	Ð
	Specify minimum settings for the installation. Default values are used for other settings.	
		Setup

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

Operating system : Windows Server 2008 R2 Edition : Standard(Full Installation) Password Settings Administrator Password :	
Language : English 🔅	
	tequired) tequired)

Note

- Enter Administrator Password that satisfies the following conditions:
 - Contains 6 or more characters
 - Contains characters from at least three of the following categories: numbers, uppercase letters (A - Z), lowercase letters (a - z), and symbols.

13-(2) Click \bigcirc on the right side of the screen. \rightarrow Go to step 15.

	1 OS select	on Settings Cor	firmation Installation	
	2 『	ter installation settings		
\bigcirc	v Ø	Default		C
	8	Custom		
			Se	tup

14. Click Custom.

	1 OS selection Settings	3 4 Confirmation
2	Enter installation settin	gs.
)	Default	
	Custom	₽
	Specify all settings for the installation.	
		Setup

14-(1) RAID Configuration is unavailable on this server. Click Next.

- Device Information -				
RAID Controller		: No RAI	D controller is fo	und.
Number of Physic	al Drives	: 1		
RAID Configuration-	ng RAID Array			
		ĸ		1 / 11 Page

14-(2) Check the settings specified for **Basic Settings**. Modify the settings as needed, and then click **Next**.

W	indows installation disc.	ard Installer to install Windows by using the installer contained in the ng EXPRESSBUILDER to install both the operating system and
ī	-Basic Settings	
	Operating system	: Windows Server 2008 R2
	 Use Windows stand Conv OEM data Install Windows using 	uers to removable media
	Edition	: Standard(Full Installation)
	Language	: English 🗘
	Time Zone	: (UTC-08:00) Pacific Time (US & Canada)
		4 / 11 Page
	Back	Next Cancel

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

	Specify the settings of the							
	Windows will be installed i the system partition is 2TB		drive or logical driv	e. The maximum partition size fo	r			
	All data currently on an existing partition, shown with a red frame, will be deleted.							
	Current Partitions (the area shown with a red frame will be deleted) :							
	ID 0B(FAT32) ID 07(NTFS) Data Partition Free Space							
	(0.3GB) (Total:40.3GB) (0.1GB) (1076GB)							
	Partition Settings							
	Create a new partition							
	O Use all space							
1	Ose all space Type a partiti	r	40 (GB)	*1TB=1024GB				
	 Type a partiti 			40GB / Maximum: 1116GB)				
		(,	,,				
				5 / 11 Page				
				- ,				
	Back	Next		Cancel				
	Васк	Next		Cancel				

Important
 Partition size

 Specify a partition size larger than the minimum required for installing the operating system. (See *Chapter 1 (5.1 Before Starting Setup*).)
 Specify a partition size not exceeding 2,097,152MB.

 The entire contents of the destination hard disk drive will be erased.

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

Personalize the computer. Type Computer Name within 15 charac Administrator Password must be at lea three of the four categories (numbers/upp	st six		st contain characters fr
User Information			
Computer Name	2	Automatic Numbering	
		BD4394570815	(Required)
User Name	- 1	Administrator	_
Administrator Password	:		(Required)
Reenter Administrator Password	:		(Required)
			6 / 11 Page
			Cancel

Note	 Enter Administrator Password that satisfies the following conditions: Contains 6 or more characters Contains characters from at least three of the following categories: numbers, uppercase letters (A - Z), lowercase letters (a - z), and symbols.
Tips	 The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Automatic Numbering", 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 Confirm Administrator password text boxes.

14-(5) Network Protocols is unavailable on this server.

	Pares -	12	14
Wizard			
Choose a network pro Choose Custom Sett	itocol. Ings, click Advanced, if yo	u want to type an IP	address.
- Network Protocols			
Standard			
Custom S			
Standard /	Adapter - Internet Protocol ((Pv4) C	Advanced
			7 / 11 Page

14-(6) Specifying domain or workgroup is unavailable on this server. Click **Next**.

loin this computer to a domain or a Choose Join a workgroup or Join	a domain , and then enter parameters.
 Join a workgroup Workgroup Name 	: WORKGROUP
□ Join a domain	. Honologi
Domain Name	:
Account Name	:
Password	:
Reenter Password	:
	8 / 11 Page
Back	Cancel

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

Choose Windows components you v	vant to install.
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	
U WINS Server	
	9 / 11 Pa
Back Nex	xt Cancel

14-(8) Check the settings of applications. Click Next.

Available Applications			Selected Applications	
	6	NEC ESM Express F	PRO ServerAgentService leport Service leport Service(HTTPS)	6
	Add	d >>	(eport Service(HTTPS)	
	<< D	elete		
Description	×			19
				-
			10 / 11 P	

On the following screen, click Finish.

The settings are now co	omplete.	
Click Finish to close the	tis window.	
		11 / 11 Page
		11/11 rage
Back	Finish	Cancel
Back	Finish	Cancel

On the screen as shown below, click \bigcirc on the right side of the screen
--

2	Enter installation settings.	
	Default	(
~ ¢	Custom	

15. Check the settings.

To save the settings, click **Save**.

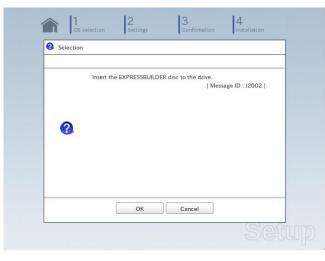
	•		
	Confirm instal	lation settings.	
	(Check if valid installat	ion settings are specified)	
~			
)	Operating system	: Windows Server 2008 R2	
-	(Install Windows using EXPRESS	BUILDER)	
	Edition	: Enterprise(Full Installation)	
	Language	: English (UTC-08:00) Pacific Time (US &	
	Time Zone	Canada)	
	Partition Settings	: Create a new partitien(40GB)	
		Save	
			7

Click \bigcirc on the right side of the screen.

- 16. The setup process starts.
 - Click Start to continue setup.

	1 Selection 2 Settings 3 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.
	Copying files
\bigcirc	Changing media
	Start
	Setup

17. Insert the EXPRESSBUILDER disk into the optical disk drive, and then click OK.



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

	Insert an OS ins	stallation disc fo	Message ID : J2	000]
3				

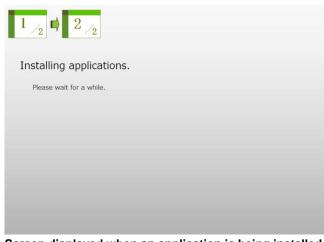
The setup proceeds automatically.

Wait for approximately 40 minutes without performing any operation.

19. The Starter Pack and the selected applications are automatically installed. Wait until the process completes without performing any operation.

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

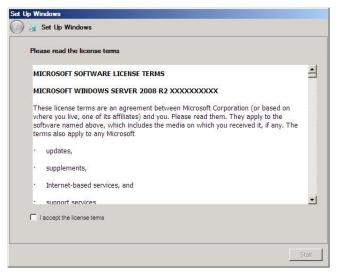
Screen displayed when Starter Pack is being installed



Screen displayed when an application is being installed

20. Read the terms of License Agreement.

If you agree, select I accept the license terms, and then click Start (Full installation only).



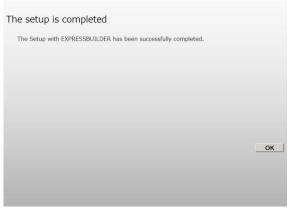
21. When the following message appears, press <**Ctrl**> + <**Alt**> + <**Del**> keys.



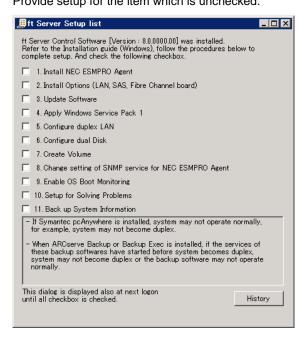
Type your password you have set in Step 13-(1) or 14-(4) into the text box, and then click 🔍.



22. Click OK.



23. When **ft Server Setup list** appears, confirm the list items. Provide setup for the item which is unchecked.



□ Install Options (LAN, SAS, Fibre Channel Board)

If you have an option board that is not yet installed, install it according to Chapter 2 (5.7 PCI Card) in Maintenance Guide.

Update Software

See Chapter 1 (5.8.1 Applying ft Server Control Software Update Module).

Apply Windows Service Pack

See Chapter 1 (5.7 Applying Service Pack).

Service Pack 1 is applied if you use the OS install media containing Service Pack 1.

Configure duplex LAN

See Chapter 1 (5.9 Duplex LAN Configuration).

Configure dual Disk

See Chapter 1 (5.10 Configuring Duplexed Disks).

Create Volume See Chapter 1 (5.11 Creating Volume). □ Change setting of SNMP service for NEC ESMPRO Agent

Setup SNMP service by referring to NEC ESMPRO Agent Installation Guide (Windows) on EXPRESSBUILDER.

Enable OS Boot Monitoring

See Chapter 1 (5.13 Enabling OS Boot Monitoring Feature).

Setup for Solving Problems

See Chapter 1 (6. Setup for Solving Problems).

Tips If necessary, perform license authentication procedure according to *Chapter 1* (5.14 *License Authentication*).

Back up System Information

See Chapter 1 (8. Backing Up System Information).

Setup with EXPRESSBUILDER is now complete.

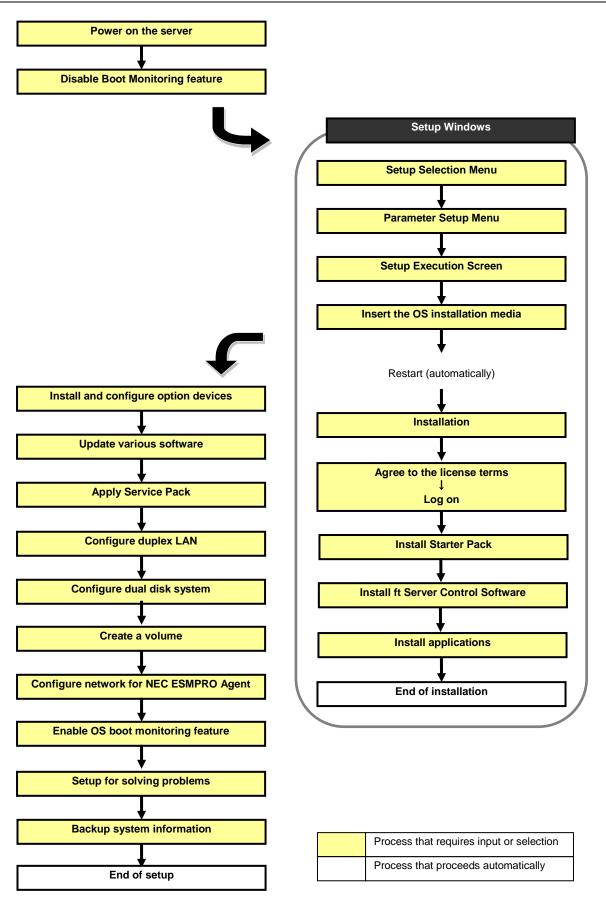
5.3 Setup with Windows Standard Installer

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

Important	•	Setup with Windows standard Installer may erase all data in the hard disk drive depending on the settings. Pay attention to input parameters. Backing up user data, as needed, is recommended.					
	•	Although some dialog boxes and popup windows are displayed during installing ft Server Control Software in Setup, do not operate from the keyboard and the mouse. Installation is continued automatically. Do not operate especially although the following dialog is displayed. When installation is stopped with operation of a keyboard or a mouse, there is a possibility that OS does not start normally.					
		Microsoft Windows					
		You must restart your computer to apply these changes Before restarting, save any open files and close all programs. Restart Now Restart Later					
Tips	•	Setup with Windows Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media.					

• For details on creating a parameter file, see *Chapter 1* (7. *Windows OS Parameter File*).

5.3.1 Setup flow



5.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

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

(If your OS install media does not contain Service Pack 1, prepare it.)

- > First Steps Guide
- > EXPRESSBUILDER DVD
- > ft Server Control Software UPDATE media

Used to update ft Server Control Software. This might not be provided with your server.

> Prepare if needed:

Removable media for Windows OS parameter file

Service Pack

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

ft Server Control Software update module

See Chapter 1 (5.8.1 Applying ft Server Control Software Update Module) for more information.

5.3.3 Before setting up

Before starting setup, read through Chapter 1 (5.1 Before Starting Setup) for successful setup.

5.3.4 Setup procedure

- 1. Prepare for setup according to Chapter 1 (5.1.2 Preparation).
- 2. Be sure to disable OS Boot Monitoring feature according to *Chapter 1 (5.1.3 Disabling OS Boot Monitoring Feature)*.

Important OS Boot Monitoring feature is enabled by the shipping default. Setup process will fail if this feature is enabled.

- 3. Power on the display unit, and then power on the server.
- 4. Start EXPRESSBUILDER according to Chapter 1 (1.1 Starting EXPRESSBUILDER).
- 5. When the following message appears, select OS installation *** default ***.

Boot selection
OS installation *** default *** Tool menu
Automatic boot in 7 seconds

The following window appears.



The server starts from EXPRESSBUILDER.



6. Select $\mbox{English}$ on the language selection window, and then click $\mbox{OK}.$



7. Click Setup.

Set up	Setup	8
•	Versions	
Ċ	Exit	

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

	1 OS select	ion Settings	3 Confirmation	4 Installation						
	0.000	lect an operatin								
	e	Automatic De	etection							
		Manual Selec	tion							
	Þ	Load Setting	;	\square						
				Se	tup					
	0	a paramete	: Sel	ect Auto ect Manu	al Select	tion, an	d then g	o to Step	10.	
□ When u	ising a p	arameter file	e : Sel	ect Load	Settings	s, and th	nen go to	Step 11		
	Note	When set paramete	tting up agai er file.	n, paramet	er input via	a the wiz	ard can b	e omitted	by loading t	the saved

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

Select an operating system to ins	tall.
(Click Manual Selection to configure a RAID array	r only)
Automatic Detection	D ^B
Select an operating system automatically with an installation disc.	
Load Settings	

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

	Insert the OS installat EXPRESSBUILDER wi	 want to install	
		[Message ID	: B2014]
2			

9-(3)		right side of the settings			ep 12.
		elect an operatir lick Manual Selection to			
	• 👩	Automatic D	etection		\bigcirc
		Manual Sele	ction		
	₿	Load Setting	s		
				Sei	tup

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

	1 OS selection	2 Settings	3 Confirmation	4 Installation	
-			g system to inst configure a RAID array		
	E AL	itomatic De	tection		
		anual Selec	tion	Þ	
	You can select the installation	the target OS of from the menu.			
				Setu	p

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

	Select an operatin	g system to install.	
	Windows	Windows Server 2008 R2 0	
	○ VMware		
2			
	-		

10-(3)	Click 🛇	on the r	right side of	the screen.	\rightarrow Go to st	ep 12.
		1 OS selec	tion Settings	3 Confirmation	4 Installation	
			2	ng system to ins 10 configure a RAID array		
		e	Automatic D	etection		\bigcirc
		•	Manual Sele	ection		
		B	Load Setting	ļs		
					Set	tup

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

1 OS select	on Settings	3 Confirmation	4 Installation
	lect an operating sys		
	Automatic Detect		
	Manual Selection		
Ð	Load Settings		De la companya de la comp
Load in	stallation settings.		Setup

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

De mnt u	sr_connect						
Places	Name			v s	Size	Modified	
🏥 Search	Cdrom 1						
Recently Used							
🛅 root							
🔯 Desktop							
🔜 File System							
Documents							
Music							
Pictures							
Videos							=
Downloads Add Remove							
				Cance		Open	
Tips	For the ren see "/mnt/	novable med /usr_connect	ia in which th t /usb *" (* ind	ne p licat	ara	amete a nur	r fi nb

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

	elect an operating system to install.
	Automatic Detection
	Manual Selection
¥ 🕒	Load Settings

11-(4) When the parameter file is correctly loaded, click \bigcirc on the right side of the screen. \rightarrow Go to step 13.

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

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

12. Click Custom.

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

12-(1) RAID Configuration is unavailable on this server. Click Next.

	install all RAID controllers not to be us ected.	sed for the OS installatio	n if the incorrect RAID cor	ntroller is
Г	Device Information			
	RAID Controller	: No RAID cor	ntroller is found.	
	Number of Physical Drives	: 1		
	Summary of RAID Array			
	-RAID Configuration			
	☑ Skip Configuring RAID Array			
		×	1/1	1 Page
	Next		Cance	

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

Basic Settings				
Operating system	: Win	dows Server 2008	R2	
Use Windows sta	andard installer			
Copy OEM d	rivers to removable m	edia		
□ ○ Install Windows u	sing EXPRESSBUILDE	R		
Edition	: Standard(Fu	II Installation)	0	
Language	: English	0		
Time Zone		Pacific Time (US)	& Canada)	0
1				
				4 / 11 Page

On the following screen, click Finish.

The settings are now co	mplete.	
Click Finish to close th	is window.	
		11 / 11 Page
Back	Finish	Cancel
Dack	Fillist	Cancer

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

2 Ente	r installation settings.	
0	Default	
~ 01	Custom	

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

	2 Confirm installa	tion settings.	
	(Check if valid installation	ı settings are specified)	
)	Operating system	: Windows Server 2008 R2	
	(Use Windows standard installer)		
	Copying OEM drivers	: No	

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

	1 2 3 4 OS selection Settings Confirmation Installation
	Ready to set up the computer.
	A partition has already been created. If you proceed, any data stored on the partition will be lost.
	Changing a CD/DVD
\bigcirc	Installing an OS
	Start
	Setup

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

Question							
	Insert an	OS installation	disc for inst		essage ID : J2	000]	
					omen-est 97911991-		
?							
	(ОК	C	ancel			

- 16. The server reboots automatically.
- 17. The system starts from the OS installation media.

If an operating system is already installed on the hard disk drive, the message "Press any key to boot from CD or DVD..." is displayed on the top of the screen. Press **<Enter>** key to boot from OS installation media.

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

Note

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

This step is unnecessary if no operating system exists.

18. Click Next at default settings.



19. Click Install Now 😂.

Windows Server 2008 R2 installation starts.

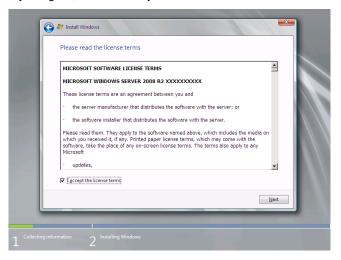


20. Select the edition of the Windows you are going to install and the installation type.

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)	x64	7/14/2009
Windows Server 2008 R2 Enterprise (Full Installation)	x64	7/14/2009
Windows Server 2008 R2 Enterprise (Server Core Installation)	x64	7/14/2009
Windows Server 2008 R2 Datacenter (Full Installation)	x64	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

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



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

Which type of installation do you want?
Upgrade Upgrade to a newer version of Windows and keep your files, settings, and progra- ter to the upgrade is only available when an austing version of Windows is running. We recommend backing up your files before you proceed.
Custom (advanced) Instal a new copy of Windows. This option does not keep your files, settings, and start your computer using the installation disc. We recommend backing up your before you proceed.
Help me decide

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

When you select Load Driver, the following message appears.

Load Driver		
	-	our hard drive, insert driver files, and then
Note: The installati USB flash drive.	on media can be a fl	oppy disk, CD, DVD, or
Browse	OK	Cancel

Tips

Although the message, "Installation media can be a floppy disk, CD, DVD, or USB Flash" is displayed on the screen at this time, be sure to use EXPRESSBUILDER DVD.

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

(When using EXPRESSBUILDER, select the optical disk drive.)

\002\win\winnt\oemfd\ws2008r2\sradisk

Tips

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

FTSYS LSI 2008/3008 SAS2/SAS3 Internal Disk Adapter

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



27. Select a hard disk drive in which partition is to be created, click Drive options (advanced).

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

Name Total Size Free Space Type Disk 0 Unallocated Space 74.5 GB 74.5 GB Image: Space Space Space 74.5 GB 74.5 GB Image: Space	Where do you w	ant to install wir	ndows?			
 42 Befresh ∑Delete €ormat Neg Coad Driver Eptend Eptend 	Name		Total Size	Free Space 1	Гуре	
@ Load Driver 🔄 Estend	Disk 0 Unalle	ocated Space	74.5 GB	74.5 GB		
			Eormat	<mark>∦</mark> Ne <u>w</u>	Next	

28. Click New.

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

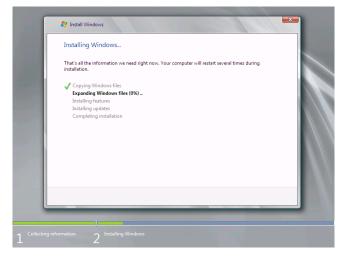
Note	The partition size must be 2TB or smaller.
Tips	When creating new partition, 100MB of boot partition is secured. When the following message appears, click OK .
	Install Windows To ensure that all Windows features work correctly, Windows might create additional partitions for system files.
	OK Cancel

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

Name Disk 0 Partit	ion 1: System Reserved	Total Size 100.0 MB	Free Space 86.0 MB	
Disk 0 Partit	ion 2	39.9 GB	39.9 GB	Primary
€9 <u>R</u> efresh () <u>L</u> oad Driver	Delete		₩ N <u>e</u> w	
				N

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

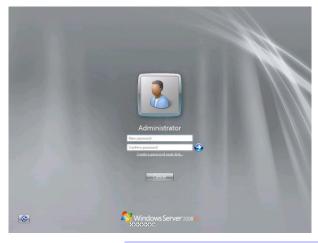
The following message appears and Windows installation starts.



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



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

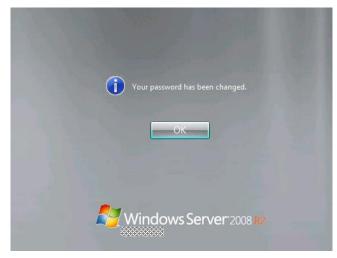


Tips

Passwords must sa	atisfy the followin	g requirements.

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

33. Click OK.



34. Confirm the following according to the settings selected (displayed) in Step 20.

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

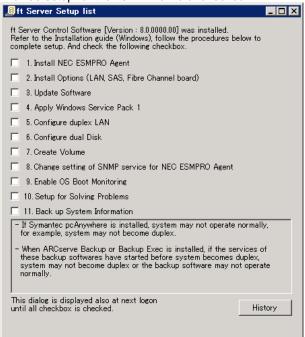
Pe	rform the following tasks to configure t	his server		Mindows Ser	
0	Provide Computer Information	1		Specifying computer information	
	Activate Windows	Product ID:	Not activated		
	Set time zone	Time Zone:	(UTC-08:00) Pacific Time (US & Canada)		
	Configure networking	Local Area Connection:	Not connected		
	Provide computer name and domain	Full Computer Name: Workgroup:	WIN-Q1SKAJAVAF5 WORKGROUP		
0	Update This Server			Updating your Windows server	
	Reable automatic updating and feedback	Updates: Feedback	Not configured Windows Error Reporting off Not participating in Customer Experience I	inprovement Program	
	Coveniced and install updates	Checked for Updates: Installed Updates:	Never Never		
0	Customize This Server			Customizing your server	
	Add roles	Roles:	None		
	Add features	Features:	None		
	Gage Enable Remote Desktop	Remote Desktop:	Disabled		
	Configure Windows Firewall	Firewalk	Public: On		

- 35. Install Starter Pack by referring to Chapter 1 (5.4 Installing Starter Pack).
- 36. Install the ft Server Control Software according to *Chapter 1 (5.5 Installing ft Server Control Software)*. When installation completes, Setup Checklist appears on screen.
- 37. Install the NEC ESMPRO Agent.

Tips

See Chapter 2 (1.1 NEC ESMPRO Agent (for Windows)) for installation of NEC ESMPRO Agent.

 When ft Server Setup list appears, confirm the list items. Provide setup for the item which is unchecked.



□ Install Options (LAN, SAS, Fibre Channel board)

If you have an option board that is not yet installed, install it according to Chapter 2 (5.7 PCI Card) in Maintenance Guide.

Update Software

See Chapter 1 (5.8.1 Applying ft Server Control Software Update Module).

Apply Windows Service Pack

See Chapter 1 (5.7 Applying Service Pack).

Service Pack 1 is applied if you use the OS install media containing Service Pack 1.

Configure duplex LAN

See Chapter 1 (5.9 Duplex LAN Configuration).

Configure dual Disk

See Chapter 1 (5.10 Configuring Duplexed Disks).

Create Volume

See Chapter 1 (5.11 Creating Volume).

Change setting of SNMP service for NEC ESMPRO Agent

See Chapter 2 (Installing Bundled Software).

Enable OS Boot Monitoring

See Chapter 1 (5.13 Enabling OS Boot Monitoring Feature).

Setup for Solving Problems

See Chapter 1 (6. Setup for Solving Problems).

Tips

If necessary, perform license authentication procedure according to Chapter 1 (5.14 License Authentication).

Back up System Information

See Chapter 1 (8. Backing Up System Information).

Setup with Windows standard installer is now complete.

5.4 Installing Starter Pack

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

Important	Also install Starter Pack in the following cases.
	 If the mother board has been replaced: (If a dialog box prompting you to restart appears after replacing the mother board, reboot the system according to messages and then apply 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.

- 1. Sign-in to the system as the built-in administrator (or user with administrative privileges).
- 2. Insert EXPRESSBUILDER DVD into the optical disk drive.
- 3. Click **Integrated Installation** on the menu.

	NEC EXPRESSBUILDER	
EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
F	Integrated Installation	
	Applications	
	Files for Setup	
	Exit	
		Version 7.00-000.01(000)

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

	NEC EXPR	ESSBUILDER		
EXPR	ESSBUILDER			NEC
	Integrated Installation			
	Install the following software. - Install Starter Pack prior to installing - Uninstall the application prior to reins		tion.	
(0)	Starter Pack On Sector Sector Sector			
(con	OApplications			
	NEC ESMPRO Agent Ver.4.6	Rev4.65	Not installed	
	Express Report Service	Rev3.5E	Not installed	
	Express Report Service (HTTPS)	Rev3.5	Not installed	
	Product Info Collection Utility BMC Configuration	Rev2.7.3 Rev1.42	Not installed Not installed	
		Rev1.42	Not Installed	
			1.	stall
			In	stall
	If Ctarter Deals is	o olroodu i	notallad the	4 Come
Tips	If Starter Pack is			
	default. To insta	II Starter P	'ack again, s	elect the

4. Read the message, and then click **OK**.

Starter Pack installation starts.

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

Wait until the process is completed (for approximately 3 to 5 minutes).

5. The following message appears when 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.

5.5 Installing ft Server Control Software

You must quit all programs including Microsoft management console.

Important ft Server Control Software does not support the overwrite installation feature (uninstallation and re-installation). If ft Server Control Software causes an error and restoration is needed, perform restoration using the data backed up before the error occurred.

1. Install ft Server Control Software in the following procedure.

When ft Server Control Software UPDATE media is not provided:

- (1) After signing in to the system as a user with the Administrative account, insert the EXPRESSBUILDER DVD into the optical disk drive of the server.
- (2) On the menu screen, click Integrated Installation, select ft Server Control Software on the menu, and then click Install.

	NEC EXPRI	ESSBUILDER		
EXPRE	ESSBUILDER			NEC
	Integrated Installation			
	Install the following software. - Install Starter Pack prior to installing t	the application		
	- Uninstall the application prior to reins		ion.	
	Starter Pack Oft Server Control Software			
	NEC ESMPRO Agent Ver.4.6	Rev4.65	Not installed	
	Express Report Service	Rev3.5E	Not installed	
	Express Report Service (HTTPS)	Rev3.5	Not installed	
	Product Info Collection Utility	Rev2.7.3	Not installed	
	BMC Configuration	Rev1.42	Not installed	
			Insta	ill

When ft Server Control Software UPDATE media is provided:

Install ft Server Control Software from the UPDATE media according to Instruction Manual that comes with the media.

Follow the instructions to proceed with the installation.

Note

The message "**ft Server Control Software, Now Installing... Please Wait.**" is displayed during installation. Do not use the keyboard or mouse while this message is being displayed.

- 2. When installation starts, a message "If there is a disc in the DVD drive, please remove it." will be displayed. If EXPRESSBUILDER DVD is set in optical disk drive, remove it.
- 3. The system is rebooted several times during the installation. After the system is rebooted, sign in again as the user logged in before rebooting.
- 4. Installation of the ft Server Control Software resumes after you logged on.
- 5. When the message "Installation is finished" is displayed, click **OK** to reboot the server.

Note

Change the screen to check the message by using the taskbar, as the message may hide behind the screen.

5.6 Installing 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)*.

- 1. Sign-in to Windows on the server as the Built-in Administrator (or an account having administrative privilege).
- Insert the EXPRESSBUILDER DVD into the optical disk drive, double-click dispatcher_x64.exe in the following folder.

<EXPRESSBUILDER>:\autorun\dispatcher_x64.exe

3. Click Integrated Installation on the menu.

	NEC EXPRESSBUILDER	
EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
F	Integrated Installation	
	Applications	
	Files for Setup	
	Exit	
		Version 7.00-000.01(000)

4. On the following screen, select **Applications**, and select the check boxes corresponding to the applications to install, and then click **Install**.

	NEC EXPR	ESSBUILDER			
EXPR	ESSBUILDER		NE	EC	
	Integrated Installation				
0	Install the following software. - Install Starter Pack prior to installing - Uninstall the application prior to reins O Starter Pack O Starter Pack		ion.		
	Applications HEC ESMPRO Agent Ver.4.6 Express Report Service Express Report Service (HTTPS) Product Info Collection Utility BMC Configuration	Rev4.65 Rev3.5E Rev3.5 Rev2.7.3 Rev1.42	Not installed Not installed Not installed Not installed Not installed		
			Install		
ľ	 Applications availab If your system enviro cannot install it. (F) 	onment do	es not satisfy the	prerequisite fo	r an application, you nd Chapter 2 (Instal

The selected applications are installed automatically.

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

Now installation of applications is completed.

5.7 Applying Service Pack

When applying Service Pack 1, refer to "About Windows Server 2008 R2 Service Pack 1" on the web site below. http://www.58support.nec.co.jp/global/download/w2008r2/sp1.html

5.8 Setup Various Software

5.8.1 Applying ft Server Control Software Update Module

If you use ft Server Control Software UPDATE media, refer to the installation procedure enclosed in the UPDATE media to apply the update.

Note

Disable OS Boot Monitoring feature before updating ft Server Control Software according to *Chapter 1 (5.1.3 Disabling OS Boot Monitoring Feature)*. In addition, disconnect all the network cables from the server before starting update.
 Upon completion of update, set OS Boot Monitoring feature to **Enabled**.

5.8.2 Applying Security Patches and QFE

When you use the server for the first time, apply the QFE for knowledge information listed below, for stable operation of your server. You can obtain these QFEs from Microsoft web site.

• KB2471472

An NDIS device cannot be failed over on a fault-tolerant system that is running Windows 7 or Windows Server 2008 R2 after you remove another NDIS device. (http://support.microsoft.com/kb/2471472)

KB2528507

Fails to collect memory dump in Windows 7 (x64) or Windows Server 2008 R2 SP1 environment. (http://support.microsoft.com/kb/2528507)

Note that KB2528507 must be applied on the system where Windows Server 2008 R2 Service Pack 1 has already been applied.

The QFEs listed below contains the information of KB2528507, therefore, if you apply any of these QFEs, you need not to apply KB2528507 furthermore.

KB2534366, KB2556532, KB2633171, KB2724197, KB2799494, KB2813170, KB2859537, KB2872339

KB2528984

Functionality issues on USB devices that are connected to a Windows 7-based computer on an Intel platform

(http://support.microsoft.com/kb/2528984)

Refer to Microsoft knowledge base for details of QFE. These QFEs may be included in the other update programs in future. If such a program is already applied, you need not to apply these programs.

When applying security patches and QFE, there is no restriction specific to ft Server is imposed. Apply patches according to your system environment.

Important As for Windows service pack, use only the one provided with the server. Do not apply any other service pack.

5.9 Duplex LAN Configuration

The Express5800/ft series builds a duplex LAN configuration by using "Stratus emb-I350 2-Port Gigabit Adapter" or "Stratus emb-X540 2-Port Copper 10 Gigabit Adapter (*)" mounted as standard on the CPU/IO module and the additional LAN card "Stratus I350 2-Port Gigabit Adapter" or "Stratus X540 1-Port Copper 10 Gigabit Adapter".

(*) Express5800/R310e-E4, R320e-E4, R310f-E4, R320f-E4 do not have this adapter.

(1) Overview

The duplex LAN configuration is of three types as described below:

• Adapter Fault Tolerance (AFT)

AFT is a feature that places more than one LAN adapters on the same switch, and automatically switches the process of the active adapter to the backup adapter when any trouble occurred on the active adapter. STP (Spanning Tree Protocol) on switch must be disabled.

• Adaptive Load Balancing (ALB)

ALB includes features of AFT, and enhances the throughput by distributing packet transmission by using LAN adapters simultaneously.

Receive Load Balancing (RLB) is enabled by default. Disable RLB and remove adapter priority when using ALB.

• Switch Fault Tolerance (SFT)

SFT is a feature that provides redundant network, as two adapters are connected to corresponding two switches. One is assigned to the active adapter and the other is assigned to the standby adapter. Usually the active adapter is used for communication.

Spanning Tree Protocol (STP) function is required to construct the path redundancy on the switch devices.

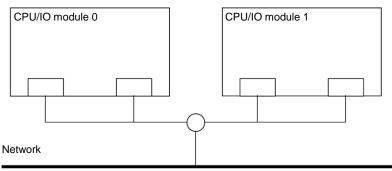
When you build the environment, you need to set the switch priority in order to maintain the path to the active adapter after the path information is updated if a switch on the path is broken. In addition, you need to set the priority to use the standby adapter's switch if the active adapter's switch is broken.

The other modes, "Static Link Aggregation", "IEEE 802.3ad Link Aggregation", and "Virtual Machine Load Balancing" do not contribute to enhancement of network availability. When a fault occurs, the communication performed on the failed adapter is not taken over by the standby adapter but lost.

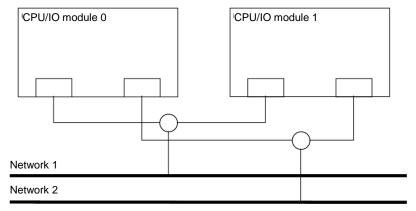
(2) Rules of Duplex Configuration on Express5800/ft series

When building duplex configuration, be sure to use both adapters CPU/IO module 0 and 1.

Example 1) Configure the duplex network which enhances the service life by using all adapters.



Example 2) Configure the duplex network which corresponds to multiple LAN connection.



(3) Configuring Duplex LAN

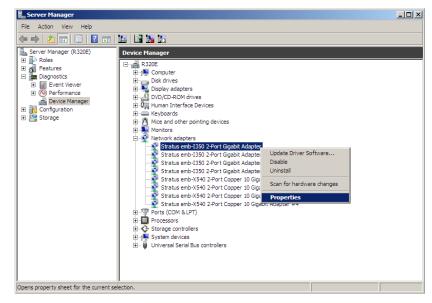
This section describes how to configure duplex LAN.

Adn		ecause the configuration from the remote site may fail, you need to log on as an Iministrator or a member of Administrators group. eset the startup monitoring function to Enabled after the completion of update.	
	•	The screen images are subject to change because of the network driver version. Substitute as appropriate when content has been modified.	

1. Select Start \rightarrow Administrative Tool \rightarrow Computer Management \rightarrow Device Manager.

Note	Check Network Adapter , and if LAN adapters are duplicated as shown below, remove all LAN adapters from Device Manager , then select Action – Scan for hardware changes .
	Stratus emb-I350 2-Port Gigabit Adapter
	Stratus emb-I350 2-Port Gigabit Adapter
	Stratus emb-I350 2-Port Gigabit Adapter #2
	Stratus emb-I350 2-Port Gigabit Adapter #2
	The display will be as follows when the actions are performed properly.
	Stratus emb-I350 2-Port Gigabit Adapter
	Stratus emb-I350 2-Port Gigabit Adapter #2
	Stratus emb-1350 2-Port Gigabit Adapter #3
	Stratus emb-I350 2-Port Gigabit Adapter #4
	When 10GBASE-T is used, the network adapter names"Stratus emb-X540 2-Port Copper
	10 Gigabit Adapter" and "Stratus X540 1-Port Copper 10 Gigabit Adapter" are displayed.

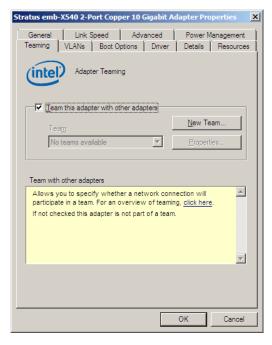
2. Select a target LAN Adapter. Select **Properties** from the right-click menu to open the **Properties** window.



3. Select the **Teaming** tab on the **Properties** dialog box. Select the **Team this adapter with other adapters**, and then click the **New Team...** button.

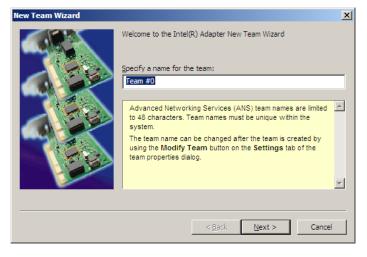
Stratus emb-1350 2-Port Gigabit Adapter Pro	operties	×		
General Unk Speed Advanced Teaming VLANs Boot Options Driver		Management Resources		
Adapter Teaming				
Team this adapter with other adapters				
Team:	<u>N</u> ew 1	Feam		
No teams available	Prope	rties		
Team with other adapters				
Allows you to specify whether a network connection will participate in a team. For an overview of teaming, <u>click here</u> . If not checked this adapter is not part of a team.				
1		V		
	ОК	Cancel		

Stratus emb-I350 2-Port Gigabit Adapter and Stratus I350 2-Port Gigabit Adapter is used



Stratus emb-X540 2-Port Copper 10 Gigabit Adapter and Stratus X540 1-Port Copper 10 Gigabit Adapter is used

4. Enter the team name and click Next.



Note

Specify the team name with 3 or more characters.

If the team name is specified with 3 or less characters, creating the secondary team will fail with the following message displayed: **"Failed to create a team."**

5. Select the adapters to include in the team and click Next.

Select the adapters to include in this team:	
Stratus emb-1350 2-Port Gigabit Adapter Stratus emb-1350 2-Port Gigabit Adapter #2 ✓ Stratus emb-1350 2-Port Gigabit Adapter #3 ✓ Stratus emb-1350 2-Port Gigabit Adapter #4 ✓ Stratus emb-X540 2-Port Cooper 10 Gigabit Adapter	▲ ↓
This list shows the adapters that are available for Advanced Networking Services (ANS) teaming. Adapters that do not support ANS teaming, are already members of another team, or are otherwise unable to join a team, are not listed. Check the adapters you wish to include in the team. Some non-Intel® adapters are supported in ANS teams. For more information, see <u>Multi-Vendor Teaming</u> .	

Check "PCI bus" and "Function (*)" of adapters to be included in the team. Use adapters of the same functionality. Create a team with an adapter having smaller PCI bus number and an adapter having larger PCI bus number.				
(*) "Function" can be verified in General tab of Properties window.				
PCI bus:	Smaller value (PCI module #0 side) Larger value (PCI module #1 side)			
Function:	0 (Port #0 side) 1 (Port #1 side)			
Example:				
PCI but Team 1 PCI but	s (smaller value), Function 0 (Port #0 side) s (larger value), Function 0 (Port #0 side) s (smaller value), Function 1 (Port #1 side) s (larger value), Function 1 (Port #1 side)			
	Use adapters bus number a (*) "Function" PCI bus: Function: Example: Team 0 PCI bus PCI bus Team 1 PCI bus			

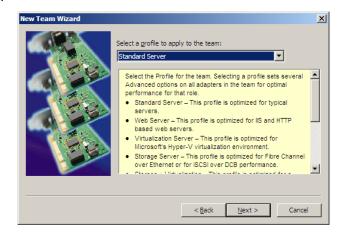
6. Select Adapter Fault Tolerance, Adaptive Load Balancing, or Switch Fault Tolerance as a team mode. Click Next.

	Select a <u>t</u> eam type:	
	Adapter Fault Tolerance	
	Adaptive Load Balancing	
	Static Link Aggregation	
	IEEE 802.3ad Dynamic Link Aggregation Switch Fault Tolerance	
	Iswitch Pault Tolerance	
	Adaptes Fault Talanan as	
	Adapter Fault Tolerance	
	Adapter Fault Tolerance (AFT) provides redundancy through	
	automatic failovers from an active adapter to a standby	
	adapter in the case of switch port, cable, or adapter failure.	
	One adapter is selected to be the active adapter. All other	
	adapters are in standby.	
	Primary and Secondary adapters can be selected for the	
	team, but are not required.	T
	If a Primary adapter is chosen, it becomes the active	
	< <u>B</u> ack <u>N</u> ext > Cance	
Virtual Mad		

7. Select Standard Server from the dropdown list on Select a profile to apply to the team, and click Next.



8. Click Finish.



- 9. Start Command prompt and enter as follows to check the physical MAC address of team adapter.
 - > ipconfig /all

📾 Administrator: Command Prompt	
Ethernet adapter Local Area Connection 15:	
Media State : Media disconnected Connection-specific DNS Suffix . : Description : TEAM : Team #0 Physical Address : 58-62-32-8D-1D-D0 DHOP Enabled	
Autoconfiguration Enabled : Yes	T

10. Select the Team Adapter you have set from **Device Manager**. Select **Properties** from the right-click menu to open the properties dialog box.

E Server Manager		_ 🗆 ×
File Action View Help		
(= =) 🖄 🖬 🔛 🔛 🚺	2 D 19 15	
Server Manager (R320E) Patures Disgnostics Pettures Organostics Pertormance Organization Configuration Storage	Device Manager	
Opens property sheet for the current sele	ction.	

- 11. Set the MAC address for Team Adapter as follows:
 - Select the Advanced tab on the Properties dialog box. Select Locally Administered Address from the Settings list box
 - Enter the MAC address of a Team Adapter, which you have checked in Step 9 in the Value: text box.
 - Click OK.

TEAM : Team #0 Properties	×		
General Settings Advanced VLANs Driver Details			
Advanced Team Settings			
Settings:			
Activation Delay Allow Failback	58C2328D1DD0		
Check Time (in Seconds) Locally Administered Address			
Probes			
	Use <u>D</u> efault		
Locally Administered Address			
Changes the MAC address used by this network adapter. The address is a 12-digit hexadecimal number in this range: 0000 0000 0001 - FEFF FFFF FFFF.			
CAUTION: Make sure no other systems on the network use this address.			
NOTES: • Do not use a multicast address (least significant bit			
	OK Cancel		

- 12. Disable probe function when the team configured with only two adapters.
 - Select the Advanced tab in the Properties window. Select Probes from the Settings list box.

TEAM : Team #0 Properties	×			
General Settings Advanced VLANs Driver Details				
Advanced Team Settings				
Settings:				
Activation Delay Allow Failback Check Time (in Seconds) Locally Administered Address				
Probes				
Probes				
Enables the use of probes for the team. Probes are packets passed over the network between team members to allow the Advanced Network Services (ANS) Teaming software to test the member's status. They do add a small amount of traffic to the network and should be turned off in near-capacity networks.				
NOTE: Changing this setting may cause a momentary loss of connectivity.				
OK Cancel				

- Click Properties and uncheck to Send Probes.

Probes	×			
Send probes				
Number of probes to send				
10				
Probe type				
Broadcast				
C Multicast	Use Defaults			
Probes are packets passed over the network between team members to allow the Advanced Network Services				
(ANS) Teaming software to test the member's status.				
Send Probes enables the use of probes for the				
 team. Number of probes to send definition 	es the number of			
0	Cancel			

- Click OK.

The Probe setting is not displayed when **Switch Fault Torelance (SFT)** feature is specified. Go to Step 13.

Note

When **Probe** is enabled in an environment where the team is configured with two adapters, if either of adapters fails, the other (healthy) adapter may be recognized as failed. If the team is configured with four adapters, you do not need to disable **Probe**.

- 13. When you select **Adaptive Load Balancing** as a team mode, you need to disable **Receive Load Balancing** and remove the adapter priority.
 - (1) Select the **Advanced** tab on the properties dialog box. Select **Receive Load Balancing** from the **Settings:** list box, and then select **Disabled** from the **Value:** drop down list.

TEAM : Team #0 Properties	×		
General Settings Advanced VLANs Dri	ver Details		
Advanced Team Settings			
<u>S</u> ettings:	<u>V</u> alue:		
Activation Delay Allow Failback Check Time (in Seconds) Load Balance Refresh Rate Locally Administered Address Probes Receive Load Balancing	Disabled		
	Use <u>D</u> efault		
Receive Load Balancing			
Allows you to enable or disable Receive Load Balancing (RLB). This is enabled by default on Adaptive Load Balancing teams.			
RLB requires a Primary adapter. Intel® PROSet will automatically assign a Primary adapter when the team is created. To change the Primary adapter, use the Modify Team button on the Settings tab.			
NOTES: • ALB and RLB load balance IP	traffic. All other 📃		
	OK Cancel		

- (2) Click OK to apply a change. The dialog will close.
- (3) Show the properties dialog again.
- (4) Select the **Settings** tab on the Properties dialog box and click **Modify Team** button to display the dialog box.
- (5) Select the adapter that the priority is set, and then press the **Remove Priority** button to remove the priority.

	?
Adapters Type Name	
Select the adapters to include in this team:	Priority 🔺
✓ Stratus emb-I350 2-Port Gigabit Adapter #3	Primary
Stratus emb-I350 2-Port Gigabit Adapter #4	Not Set 📃
Stratus emb-X540 2-Port Copper 10 Gigabit Adap	
Stratus emb-X540 2-Port Copper 10 Gigabit Adag	
Set Brimary	nove Priority
Set Secondary	
Set gecondary This list shows the adapters that are available for A Networking Services (ANS) teaming. Adapters that support ANS teaming, are already members of anoti are otherwise unable to join a team, are not listed. Adapters with a check next to them are currently in ANS team. The Priority column shows if a teamed are to Primary or Secondary.	do not her team, or cluded in the
This list shows the adapters that are available for A Networking Services (ANS) teaming. Adapters that support ANS teaming, are already members of anot are otherwise unable to join a team, are not listed. Adapters with a check next to them are currently in ANS team. The Priority column shows if a teamed ar	do not her team, or cluded in the

(6) Click **OK** to close the dialog box.

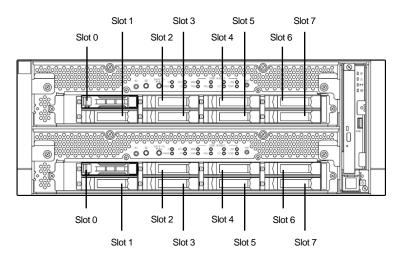
5.10 Configuring Duplexed Disks

Express5800/ft series secures data by setting dual disk configuration using RDR (Rapid Disk Resync) function. Be sure to make dual disk settings according to the procedure described below.

Important	•	Set dual disk configuration by the RDR (Rapid Disk Resync) function.	
	•	To use RDR (Rapid Disk Resync) function, log on to a built-in Administrator account.	
	•	CPU/IO module has a processor function part and IO function part, and monitors and manages each part. The IO function part is referred to as PCI module in this section.	
	•	All hard disk drives installed in built-in slots need to be duplexed. See Chapter 1 (5.10 (1) Setting Dual Disk Configuration by RDR (Rapid Disk Resync) function) and duplex the hard disk drives in each slot.	

(1) Setting Dual Disk Configuration by RDR (Rapid Disk Resync) function

The server sets dual configuration for each disk by the RDR function of the ft Server Control Software. By setting RDR, as the following figure and table show, dual configuration is set between the disks of the corresponding slots, and these disks are recognized as one virtual disk by Windows (such as Disk Management and Device Manager).



Slots corresponding to the mirroring process

Corresponding slot	
PCI module 10 Slot 0 ⇔ PCI module 11 Slot 0	
PCI module 10 Slot 1 ⇔ PCI module 11 Slot 1	
PCI module 10 Slot 2 ⇔ PCI module 11 Slot 2	
PCI module 10 Slot 3 ⇔ PCI module 11 Slot 3	
PCI module 10 Slot 4 ⇔ PCI module 11 Slot 4	
PCI module 10 Slot 5 ⇔ PCI module 11 Slot 5	
PCI module 10 Slot 6 ⇔ PCI module 11 Slot 6	
PCI module 10 Slot 7 ⇔ PCI module 11 Slot 7	

In the table above, PCI module names correspond as follows:
 PCI module (for CPU/IO module 0) - PCI module 10
 PCI module (for CPU/IO module 1) - PCI module 11

Note	•

•	To perform this procedure, you need to log on as an Administrator.
•	RDR can only be set on the basic disk inserted into the built-in slot of NEC Express5800/ft series. It cannot be set on the dynamic disk.
•	For the disk on which RDR is set, use the products with the same model number.
•	Be sure to configure the RDR settings in the same way not only when the OS is installed but also when the disk is added to the PCI module.
•	Create partitions only after the duplication of the hard disk drives are configured.
•	Use a basic disk as the system disk. Only a data disk can be used for a dynamic disk.

Dual disk configuration procedure differs depending on the procedure whether it is for the system disk (slot 0) or the data disk (slot 1 to slot 7).

Tips

To configure the dual disk of the system disk, see (2) System Disk Dual Configuration Procedure below.

To configure the dual disk of the data disk, see (3) Data Disk Dual Configuration Procedure below.

(2) System Disk Dual Configuration Procedure

Configure the dual disk of the system disk with the following procedure.

From Start, select All Programs then RDR and click RDR Utility to start RDR Utility.

1. On the left pane of the RDR Utility, select **Slot 0** disk of **PCI module 10** and confirm that "**ConfigState**" on the right pane shows "**Boot, Configured, Active, Imported**".

File Action Help					
E PCI module 10	Name	Value			
SCSI Enclosure	DevicePathID	10/40/1/0			
Slot 0 - Harddisk0-LUN1-PLE	Op State: State	Simplex			
··· Slot 1	Op State: Reason	None			
Slot 2	Vendor	HGST			
Slot 3	ProductID	HUC156030CSS200			
- Slot 4 Slot 5	Product Revision Level	A30B			
- Slot 6	SerialNumber	OTVGYYPN			
- Slot 7	ObjectName	Harddisk0-LUN1-PLEX0			
PCI module 11	Capacity	279.4 GB			
SCSI Enclosure	Config State	Boot, Configured, Active, Imported			
- Slot 0	MTBF: HardCurrent	Unknown			
Slot 1	MTBF: HardNumberOfFaults	0			
- Slot 2	MTBF: SoftCurrent	Unknown			
Slot 3	MTBF: SoftNumberOfFaults	0			
- Slot 4					
- Slot 5					
- Slot 6					
Slot 7	PCI module 10				
E Logical Disk Information	Slot0 279.4 GB Slot2	Slot4 Slot5	DA DA		
RDR Virtual Disk 1	Simplex (LUN 39/1) Empty	Empty Empty	DFT		
	DO NOT REMOVE		0 ID		
Tips	For details of RDR Util Resync) Function) in th	ty, see Chapter 2 (1.2 Disk Operations Us e Maintenance Guide.	sing RDR (Rapid Disk		
	The display of RDR Ut	The display of RDR Utility does not refresh automatically. From the menu, go to Action			
	and click Refresh or p	ess F5 key every time you conduct disk-re	elated operations such		
			elated operations such		
	as connecting/disconn	ecting disks or configuring the RDR.			
	On RDR Utility, PCI me	dule names appear as follows.			
	— PCI module (CF	U/IO module 0) - PCI module 10			
		X Y			
	DOL markets (OF	U/IO module 1) - PCI module 11			

2. Insert the disk for the dual configuration to the Slot 0 of PCI module 11.

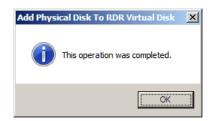
ImportantFor a disk to be inserted, use a new or physically formatted disk which has the same
capacity as the synchronization source. If such a disk is not used, disks are not
duplicated successfully.As for physical format, see Chapter 3 (3.3 Physical Formatting of the Hard Disk
Drive) in Maintenance Guide.

When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

3. On the left tree of RDR Utility, right-click **Slot 0** disk of **PCI module 11** and click **Add Physical Disk To RDR Virtual Disk**.

RDR Utility (ft-SW	: X.X.X.X)		
File Action Help			
⊡· PCI module 10		Name	Value
SCSI Enclosure		DevicePathID	11/40/1/1
··· Slot 0 - Harddisk	:0-LUN1-PLEX0	Op State: State	Online
··· Slot 1		Op State: Reason	None
- Slot 2		Vendor	HGST
- Slot 3 Slot 4		ProductID	HUC156030CSS200
Slot 4		ProductRevisionLevel	A30B
Slot 6		SerialNumber	0TG15NSL
Slot 7		ObjectName	Harddisk 1
F PCI module 11		Capacity	279.4 GB
SCSI Enclosure		ConfigState	Unconfigured
Slot 0 - Harddis	1	MTBF: HardCurrent	Unknown
- Slot 1	Create RDR Virtual D)isk	0
- Slot 2 - Slot 3	Add Physical Disk To	RDR Virtual Disk	Unknown 0
··· Slot 4	Remove Physical Dis	k From RDR. Virtual Disk	
- Slot 5		ation on Physical Disk	
··· Slot 6	Delete RDR Configur	a uon on Physical Disk	_
Slot 7	Clear Hard MTBF		
Logical Disk Informati BDB Virtual Disk 1	Clear Soft MTBF		Slot4
···· NDN Virtual Disk			Empty
	Resynchronize This P	Physical Disk From RDR Virtual Disk	
	Set As Active RDR P	lex	Slot5
		Empty Empty	Empty

4. Click OK.



5. Verify that disk synchronization has started and the status of the DISK ACCESS LED and RDR Utility display changes as the following table.

	DISK ACCESS LED	RDR Utility		
	DISK ACCESS LED	Op State: State	Status	
Source disk	Blinking amber and green	Simplex	_	
Destination disk	Blinking amber and green	Syncing	_	
RDR Virtual Disk	_	Simplex	Resync x % (x = 0, 4, 8,, 96)	

Synchronizing

Tips

DISK ACCESS LED is lit green when hard disk drive is accessed. If access is made while synchronization is in progress (LED is blinking amber), it seems that the green and amber LEDs are lit alternately.

 The time required for synchronization varies depending on the partition size on the disk. For a 279GB partition, it takes about 160 minutes.

		Name	Vai	ue		
Slot 1 Op State: Heason None Slot 2 Slot 3 Vendor Stratus Slot 3 Product ID Data Duplex LUN Slot 5 Slot 6 Slot 6 Slot 7 PCI module 11 ObjectName Slot 0 - Harddisk0-LUN1-PLEX1 DevicePath[1] Slot 1 ObjectName Slot 2 Slot 1 Slot 3 ObjectName Slot 1 DevicePath[2] Slot 1 DevicePath[2] Slot 2 Slot 3 Slot 5 Slot 5 Slot 5 Slot 5 Slot 5 Slot 6 Slot 5 Slot 7 ObjectName Harddisk0-LUN1-PLEX1 DevicePath[2] 11/40/1/0 DevicePath[2] 11/40/1/0 DevicePath[2] 11/40/1/0 ReadLoad Balancing On Resync UNPriorty High Status Resync 0% PCI module 10 Slot 2 Slot 1 Slot 2 Slot 2 Slot 4 Slot 3 Slot 5 Slot 4 Slot 2 Slot 5 Slot 4 Slot 6 Slot 2 Slot 7 Slot 3 Slot 8 Slot 4 <td></td> <td>DevicePathID</td> <td>39/</td> <td>/1</td> <td></td> <td></td>		DevicePathID	39/	/1		
Slot 2 Slot 3 Slot 3 Slot 4 Slot 5 Slot 5 Slot 6 Slot 7 Slot 7 Slot 7 Product ID Data Duplex LUN Product ID Data Duplex LUN Product ID Data Duplex LUN Product RevisionLevel 9 SerialNumber f54540e2-2e2b-43d7-80e3-6dd3bc88a154 Capacity 2734 GB Slot 0 Harddisk0 Capacity DevicePath[1] Slot 1 ObjectName Slot 2 Slot 1 Slot 3 Slot 4 Slot 4 Slot 5 Slot 5 Slot 4 Slot 5 Slot 7 Clogical Disk Information Resync UN 39/1) PCI module 10 Empty PCI module 10 Slot 3 Slot 1 Slot 3 Slot 2 Slot 4 Slot 3 Slot 4 Slot 4 Slot 5 Slot 5 Slot 2 PCI module 10 Empty		Op State: State	Sim			
Slot 3 Slot 4 Slot 4 Slot 5 Slot 5 Slot 7 PC module 11 Capacity Slot 7 ObjectName PC module 11 Capacity Slot 1 Slot 7 Slot 2 Slot 1 Slot 3 Slot 4 Slot 4 Slot 7 Slot 5 Slot 7 PC module 11 Capacity Slot 1 Slot 1 Slot 2 Slot 1 Slot 3 Slot 2 Slot 4 Slot 3 Slot 5 Slot 4 Slot 5 Slot 5 Slot 6 Slot 7 Slot 5 Slot 4 Slot 6 Slot 7 Slot 7 Slot 4 Slot 6 Slot 2 Slot 7 Slot 4 Slot 6 Slot 2 Slot 7 Slot 4 Slot 6 Slot 2 Slot 7 Slot 2 Slot 7 <tds< td=""><td></td><td>Op State: Heason</td><td>Nor</td><td></td></tds<>		Op State: Heason	Nor			
Slot 4 Product D Data Duplex LON Slot 5 Slot 5 Slot 6 Slot 7 2) PCI module 11 Capacity 279.4 GB 2) PCI module 11 Object Name Harddisk0 2) PCI module 11 Capacity 279.4 GB 3) PCI module 11 Object Name Harddisk0 2) PCI module 11 Device Path[1] 10/40/1/0 2) Sot 0 - Harddisk0-LUN1-PLEX1 Device Path[1] 10/40/1/0 Sit 2 Slot 1 Not 1 Slot 5 Slot 5 Read/DadBalancing Slot 6 Slot 7 Slot 6 Slot 6 Slot 7 PCI module 10 Slot 6 Slot 7 Slot 4 Slot 6 Slot 7 Slot 4 Slot 7 PCI module 10 Balancing 2) Logical Disk Information PCI module 10 Blot 2 Slot 7 PCI module 10 Blot 2 2) Logical Disk Information Slot 2 Slot 4 Slot 7 Slot 5 Slot 5 2) Logical Disk Information Blot 2 Slot 4 Slot 7 Slot 5 Slot 5 2) Logical Disk Information Blot 2 Slot 5 3) Slot 5 Slot 7 Slot 5		Vendor	Stra	atus		
- Slot 5 - Slot 5 - Slot 6 - Slot 7 - Slot 0 - Harddisk0-LUN1-PLEX1 - Slot 0 - Harddisk0-LUN1-PLEX1 - Slot 1 - Slot 1 - Slot 2 - Slot 3 - Slot 4 - Slot 5 - Slot 5 - Slot 7 - Slot 1 - Slot 7 - Slot 3 - Slot 7 - Slot 7 - Slot 3 - Slot 6 - Slot 6 - Slot 7 - Slot 7 - Slot 3 - Slot 7 - Slot 7 - Slot 9 - Slot 9		Product Revision Level		Data Duplex LUN		
- Sist 6 SerialNumber F54540e2:2e2b-43d7-80e3-6dd3bc88a154 - Sist 7 Capacity 2774 GB - Sict 0 - Harddisk0-LUN1-PLEX1 Object Name Harddisk0 - Sict 0 - Harddisk0-LUN1-PLEX1 DevicePath[1] 10/40/1/0 - Sict 1 - Sict 2 Bealancing On - Sict 3 - Sict 4 Beasnel LUNPhonty High - Sict 5 - Sict 5 Status Resync 0% - Sict 7 - Sict 7 Status Resync 0% - Disk Information Status Resync 0% - Sict 7 - Sict 2 Status Status - Sict 7 - Sict 7 - Sict 9 Status Resync 0% - Sict 7 - Sict 7 - Sict 2 Status Resync 0% - Sict 7 - Sict 7 - Sict 2 Status Resync 0% - Sict 7 - Sict 7 - Sict 2 - Sict 2 Status Status - Sict 2 - Sict 7 - Sict 7 - Sict 9 Status - Sict 2 - Sict 4 Sict 2 - Sict 4						
Sict 7 Capacity 279.4 GB PCI module 11 Object Name Harddisk0 SICt 0-Harddisk0-LUN1-PLEX1 Sict 1 0.400/1/0 Sict 1 Sict 2 11/40/1/0 Sict 3 Sict 4 Sict 5 Sict 5 Sict 6 Sict 7 Sict 7 Sict 6 Sict 0.279.4 GB Sict 7 Sict 2 Sict 2 Sict 1				540e2-2e2b-43d7-80e3-6d	id3bc88a154	
B: PCI module 11 ObjectName Harddisk0 Caption RDR Vitual Disk 1 DevicePath[1] 10/40/1/0 DevicePath[1] 10/40/1/0 DevicePath[1] 10/40/1/0 DevicePath[1] 10/40/1/0 Stot 2 Stot 3 Stot 5 Stot 5 Stot 6 Stot 7 Digical Disk Information PCI module 10 Biott Stot 3 Stot 7 Stot 7 Stot 7 Stot 7 Stot 8 Stot 9 Stot 9 Stot 9 Stot 1 Stot 9 Stot 2 Stot 4 Stot 5 Stot 9 Stot 6 Stot 7 Stot 7 Stot 9 Stot 10 Stot 10 Stot 10 Stot 10 Stot 10 Stot 10			275	9.4 GB		
Bit Double Stot 1 Stot 1 Stot 2 Stot 3 Stot 4 Stot 5 Stot 6 Stot 7 B Logical Disk Information RDR Virtual Disk 1 Device Path[1] 10 10 11 10 11 11 11 11 11 11 11 11 11 11 11 11 11 11 12 13 14 14 15 15 16 16 17 17 18 19 10 10 10 11 10 11 11 11 11 12 12 12 13 14 14 15 16 17 18 10 10			Har	rddisk0		
Sol 1 Sol 2 Sol 3 Sol 4 Sol 5 Sol 5 Sol 5 Sol 6 Sol 7 Cogical Disk Information RDR Virtual Disk 1 DevicePath[2] 11/40/1/0 ActiveRDRPlex Harddisk0-LUN1-PLEX0 ResvincLUNPinotty High Status ResvincLUNPinotty High Status Resvinc 0% Status Sol 5 Sol 7 Sol	SCSI Enclosure					
- Slot 2 - Slot 2 - Slot 2 - Slot 3 - Slot 4 - Slot 5 - Slot 5 - Slot 5 - Slot 5 - Slot 6 - Slot 7 - Slot 6 - Slot 7 - Slot 6 - Slot 7 - Slot 7 - Slot 8 - Slot 7 - Slot	- Slot 0 - Harddisk0-LUN1-PLEX1					
- Slot 3 - Slot 3 - Slot 4 - Slot 5 - Slot 5 - Slot 5 - Slot 5 - Slot 7 - Slot 7 - Slot 7 - Slot 7 - Slot 7 - Slot 9 - Slot				11/40/1/0		
- Slot 4 - Slot 5 - Slot 5 - Slot 7 - Slot 273.4 GB - Slot 2 - Slot 2 - Slot 2 - Slot 2 - Slot 3 - Slot 2 - Slot 3 - Slot 5 - Slot 7 - Slot 3 - Slot 3 - Slot 3 - Slot 5 - Slot 7 -				Harddisk0-LUN1-PLEX0		
- Slot 5 - Slot 6 - Slot 7 - Slot 273.4 GB - Slot 2 - Slot 2 - Slot 4 - Slot 5 - Slot 7 - Slot 273.4 GB - Slot 2 - Slot 4 - Slot 5 - Slot 5 - Slot 4 - Slot 5 - Slot 7 - Slot 5 - Slot 5 - Slot 7 - Sl						
- Slot 6 - Slot 7 - Slot 7 - Slot 7 - Slot 7 - Slot 7 - Slot 7 - RDR Virtual Disk 1 - RDR Virtual Disk 1 - RDR Virtual Disk 1 - Slot 7 - Slot 273 4 GB - Slot 2 - Slot 3 - Slo		and the second statement of the second se				
Slot 7 Slot 2 Zig 4 GB Slot 2		Status	Rei	sync 0%		
Logical Disk Information Solution						Rot
RDR Virtual Disk 1 RDR Virtual Disk 1 DO NOT REMOVE Slot1 Slot3 Slot5 Slot7			101.10		la ur	®.
DO NOT REMOVE Slot3 Slot5 Slot7						0
			Employ	Empty	Empty	a
Empty Empty Empty Empty		Slot1	Slot3	Slot5	Slot7	
		Empty	Empty	Empty	Empty	
PCI module 11		PCI module 11				
					Slot6	•
		Supplier (11N 39/1)	Empty	Empty	Empty	
			Resyno DN			
		Resync 0%				
Empty Empty Empty Empty		Resync 0% Slott	- C - C - C - C - C - C - C - C - C - C		Slot7	

Important

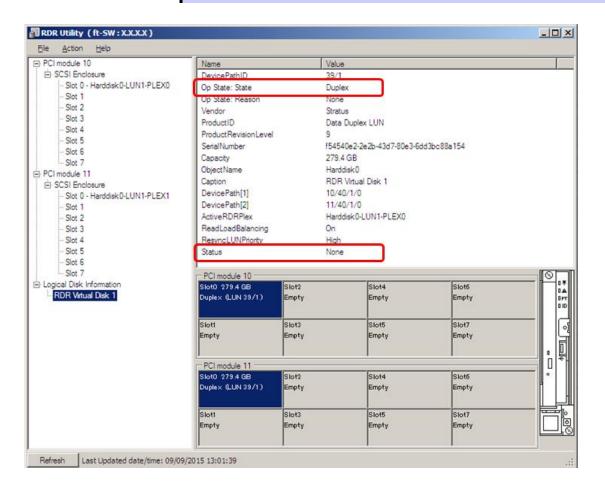
- If the system is rebooted during synchronization, the process cannot be completed. Do not restart the system until the synchronization is completed.
- When the system is halted without shutting down Windows properly due to forced shutdown or others, the entire area of the partition on the synchronized disks will be resynchronized after the system is restarted.

Synchronization completed

	DISK ACCESS LED	RDR Utility	
	DISK ACCESS LED	Op State: State	Status
Source disk	unlit (Lights green when accessing the disk drive)	Duplex	-
Destination disk	unlit (Lights green when accessing the disk drive)	Duplex	_
RDR Virtual Disk	_	Duplex	None

Tips

DISK ACCESS LED is lit green only when hard disk drive is accessed. If no access is made, the LED seems to be unlit.



252 Express5800/R310e-E4, R320e-E4, R320e-M4, R310f-E4, R320f-E4, R320f-M4 Installation Guide (Windows)

(3) Data Disk Dual Configuration Procedure

Follow the procedure below to configure dual data disk for the slots 1 to 7.

Note

The following shows how to configure dual disk for the slot 1. If you want to configure the dual disk for slot 2 to slot 7, read "slot 1" as the slots you want to make dual configuration and perform the procedure.

1. Insert a disk for the dual configuration into the Slot 1 of PCI module 10.

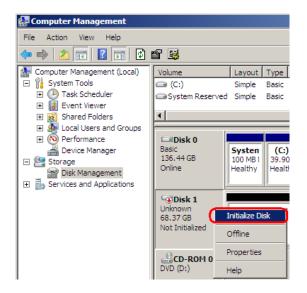
If a disk is already mounted, this procedure is not necessary.

Important	For a disk to be inserted, use a new or physically formatted disk. If such a disk is not
	used, disks are not duplexed successfully.
	As for physical format, see Chapter 3 (3.3 Physical Formatting of the Hard Disk Drive) in Maintenance Guide.

When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

2. From Start, select Administrative Tools and start Computer Management. On the tree in the left pane, click Disk Management.

If the inserted disk is indicated as Offline in the right pane, right-click the disk and make it online. After that, If the inserted disk is indicated as Not Initialized, right-click the disk again and initialize it.



When a disk is initialized, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

3. From Start, select All Programs then RDR and click RDR Utility to start RDR Utility.

Tips	•	If the inserted disk does not appear on the tree, from the menu of RDR Utility, select Action and click Refresh or press < F5 > to update the display after a while.
	•	The display of RDR Utility is not updated automatically. Therefore, update it every time after you perform disk operations described below.

4. On the left pane of the RDR Utility, right click on the **Slot 1** disk of **PCI module 10** and select **Create RDR Virtual Disk**.

Depending on the disk condition, RDR setting may take some time and RDR Utility may pause for a few minutes. There is no error, so wait until the process is completed.

PCI module 10		Name		Value	
SCSI Enclosure		DevicePathID		10/40/2/1	
- Slot 0 - Harddisk		Op State: State Online None		Online	
Slot 1 - Harddisk				None	
- Slot 2 - Slot 3	Create RDR Virtual D	Disk		HGST	
- Slot 4	Add Physical Disk To	RDR Virtual Disk		HUC1560300	CS4200
- Slot 5	Remove Physical Dis	k From RDR. Virtual Disk		A30B 0TG10ZWI	
- Slot 6 Slot 7	Delete RDR Configur	ration on Physical Disk		Harddisk1	
Stot 7 PCI module 11 Clear Hard MTBF				279.4 GB Unconfigured	
Slot 0 - Harddis	Clear Soft MTBF			Unknown	
- Slot 1	Resynchronize This I	Physical Disk From RDR V	irtual Disk	0 Unknown	
- Slot 2 - Slot 3	Set As Active RDR P	lex		0	
Slot 4 Slot 5 Slot 6				-	
Slot 7		PCI module 10			
Logical Disk Information	1	Slot0 279.4 GB	Slot2		Slot4
- BDR Virtual Disk 1		Duplex (LUN 39/1)	Empty		Empty

5. Click Yes.



6. Click OK.



Important	 If RDR is specified to a disk which contains the system partition or partition which cannot be unmounted such as setting the paging file, pop-up message of Step 6 does not appear.
	Because pop-up message that reboot of the system is needed appears, click Close or OK. The system will be automatically rebooted 2 minutes later. Go on to Step 7 after the system is rebooted.
	In addition, when the system does not reboot automatically but there is no change in setting of RDR, reboot the system manually.
	• Disk may become offline when RDR is set. In this case, use "Disk Management" to make it online.

 Insert the disk to set dual configuration into the Slot 1 of PCI module 11. If a hard disk drive is already mounted, this procedure is not necessary.

ImportantFor a disk to be inserted, use a new or physically formatted disk which has the same
capacity as the synchronization source. If such a disk is not used, disks are not
duplicated successfully.As for physical format, see Chapter 3 (3.3 Physical Formatting of the Hard Disk
Drive) in Maintenance Guide.

When a disk is inserted, a popup window asking for rebooting the system may be displayed, but there is no need to reboot it. Select **Restart Later** and close the popup window.

8. Right-click the **Slot 1** of the **PCI module 11** from the left pane of RDR Utility, and then click **Add Physical Disk To RDR Virtual Disk**.

🔊 RDR Utility (ft-SW : X.X.X.X)		
File Action Help		
PCI module 10 SCSI Enclosure Slot 0 - Harddisk-0-LUN1-PLEX0 Slot 1 - Harddisk-0-LUN2-PLEX0 Slot 2 Slot 3 Slot 3 Slot 4 Slot 5 Slot 5 Slot 6 Slot 7 PCI module 11 (i): SCSI Enclosure	Name DevicePathID Op State: State Op State: Reason Vendor ProductID ProductRevisionLevel SerialNumber ObjectName Capacity ConfigState	Value 11/40/2/2 Online None HGST HUC156030CS4200 A30B 0TG10V3L Harddisk2 279.4 GB Unconfigured
Slot 0 - Harddisk0-LUN1-PLEX1 Slot 1 - Harddisk Create RDR Virtua Slot 2 Slot 3 Slot 4 Slot 5 Remove Physical Disk	MTBF: HardCurrent I Disk To RDR Virtual Disk Disk From RDR Virtual Disk juration on Physical Disk	Unknown 0 Unknown 0
Slot 7 Disk Informatic RDR Virtual Disk 1 RDR Virtual Disk 2 Resynchronize Thi Set As Active RDR	s Physical Disk From RDR Virtual Disk Plex	Slot4 Empty Slot5 Empty

9. Click OK.



10. Verify that disk synchronization has started and the status of the DISK ACCESS LED and RDR Utility display changes as the following table.

	DISK ACCESS LED	RDR Utility		
	DISK ACCESS LED	Op State: State	Status	
Course diale	Blinking amber and green	Simplex (partition exists)		
Source disk	Green (Blinking)	Online (no partition exists)	-	
Destination disk	Blinking amber and green	Syncing	-	
RDR Virtual Disk	_	Simplex	Resync x % (x=0,4,8,…96)	

Synchronizing

Tips

DISK ACCESS LED momentarily lights green when disk is accessed. If the disk is accessed while the amber LED is blinking (during synchronizing), the LED seems to light green and amber alternately.

The time required for synchronization varies depending on the partition size on the disk.

For a 279 GB partition, it takes about 160 minutes. When the partition does not exist on the disk, the synchronization is completed immediately after the RDR is set. However, when the dynamic disk is used, the time required for synchronization depends on the disk size regardless of whether or not the partition exists on the disk. For a 279 GB disk, it takes about 160 minutes.

PCI module 10	Name	1	/alue		
SCSI Enclosure	DevicePathID		39/2		
- Slot 0 - Harddisk 0-LUN1-PLEX0	Op State: State	2	Simplex		
- Slot 1 - Harddisk 1-LUN2-PLEX0	Op State: Heason		None		
- Slot 2	Vendor		Stratus		
- Slot 3	ProductID		Data Duplex LUN		
- Slot 4	Product Revision Level		9 7552dffd45ed-441d-bebd-e07aaf51808f 279.4 GB Harddiek 1		
- Slot 5	SerialNumber				
- Slot 6 - Slot 7	Capacity				
Slot 7 Slot 2 Slot 0 - Harddek0-LUN1-PLEX1 Slot 0 - Harddek1-LUN2-PLEX1 Slot 2 Slot 3	ObjectName				
	Caption	1	RDR Virtual Disk 2		
	DevicePath[1]		10/40/2/1		
	DevicePath[2]		11/40/2/1 Harddisk1-LUN2-PLEX0		
	ActiveRDRPlex				
	ReadLoadBalancing		On		
- Slot 4	RenymolulNiRrienty		Nomal		
- Slot 5	Status Resync 16%, <mm:ss> remaining 00:39</mm:ss>				
- Slot 6	1				
- Slot 7	PCI module 10				
E Logical Disk Information BDB Virtual Disk 1	Slot0 279.4 GB	Slot2	Slot4	Slot6	
RDR Virtual Disk 2	Duplex (LUN 39/1)	Empty	Empty	Empty	:
	Slot1 279.4 GB	Slot3	Slot5	Slot7	
	Simple # (LUN 39/2)	Empty	Empty	Empty	L L
	DO NOT REMOVE				
	PCI module 11				
	Slot0 279.4 GB	Slot2	Slot4	Slot6	•
	Duplex (LUN 39/1)	Empty	Empty	Empty	
	Slot1 279.4 GB	Slot3	Slot5	Slot7	
				Empty	
	Synome (LUN 39/2)	Empty	Empty		

Important

If the system is rebooted during synchronization, the process cannot be completed. Do not restart the system until the synchronization is completed.

 When the system is halted without shutting down Windows properly due to forced shutdown or others, the entire area of the partition on the synchronized disks will be resynchronized after the system is restarted. Tips

Synchronization completed

		RDR Ut	ility
	DISK ACCESS LED	Op State: State	Status
Source disk	unlit (Lights green when accessing the disk drive)	Duplex or Online	-
Destination disk	unlit (Lights green when accessing the disk drive)	Duplex or Online	_
RDR Virtual Disk	_	Duplex	None

DISK ACCESS LED is lit green only when hard disk drive is accessed. If no access is made, the LED seems to be unlit.

E PCI module 10	Name	1	alue		1
SCSI Enclosure	DevicePathID		9/2		
- Slot 0 - Harddisk0-LUN1-PLEX0	Op State: State	(luplex		
- Slot 1 - Harddisk1-LUN2-PLEX0	Op State: Heason	1	one		
- Slot 2	Vendor	5	tratus		
Slot 3	ProductID	t	lata Duplex LUN		
- Slot 4	ProductRevisionLevel	1 5			
- Slot 5 - Slot 6	SerialNumber	7	75b2dffd-f5ed-441d-bebd-e07aaf51808f		
Slot 7	Capacity	2	79.4 GB		
SCSI Enclosure SCSI Enclosure SCSI Enclosure SIct 0 - Harddisk0-LUN1-PLEX1 Sict 1 - Harddisk1-LUN2-PLEX1 Sict 2 Sict 2 Sict 3 Sict 4	ObjectName	ł	larddisk 1		
	Caption	F	DR Virtual Disk 2		
	DevicePath[1]	1	0/40/2/1		
	DevicePath[2]	1	1/40/2/1		
	ActiveRDRPlex	+	arddisk 1-LUN2-PLEX0		
	ReadLoadBalancing		On		
	Resyncl UNPrintly	,	lomal	_	
- Slot 5	Respond UNPriority Status		lomal lone		
- Slot 5 - Slot 6	Status				
- Slot 5 - Slot 6 - Slot 7	Status	,	lone		
- Slot 5 - Slot 6 - Slot 7 ⊡ Logical Disk Information	Status PCI module 10 Slot0 279.4 GB	Slot2	Slot4	Slot6	
- Slot 5 - Slot 6 - Slot 7 ⊡ Logical Disk Information - RDR Virtual Disk 1	Status	,	lone	Slot6 Empty	Ē
- Slot 5 - Slot 6 - Slot 7 ⊡ Logical Disk Information	Status PCI module 10 Slot0 279.4 GB	Slot2	Slot4		[0
- Slot 5 - Slot 5 - Slot 7 E: Logical Disk Information - RDR Virtual Disk 1	Status PCI module 10 Stot0 279.4 GB Duplex (LUN 39/1) Stot1 279.4 GB	Slot2	Slot4		Ē
- Slot 5 - Slot 5 - Slot 7 E: Logical Disk Information - RDR Virtual Disk 1	Status PCI module 10 Slot0 279.4 GB Duplex (LUN 39/1)	Slot2 Empty	Slot4 Empty	Empty	Ē
- Slot 5 - Slot 5 - Slot 7 E: Logical Disk Information - RDR Virtual Disk 1	Status PCI module 10 Stot0 279.4 GB Duplex (LUN 39/1) Stot1 279.4 GB	Slot2 Empty Slot3	Slot4 Empty Slot5	Empty Slot7	
- Slot 5 - Slot 5 - Slot 7 E: Logical Disk Information - RDR Virtual Disk 1	Status PCI module 10 Slot0 278.4 GB Duplex (LUN 39/1) Slot1 278.4 GB Duplex (LUN 39/2)	Slot2 Empty Slot3	Slot4 Empty Slot5	Empty Slot7	Ē
- Slot 5 - Slot 5 - Slot 7 E: Logical Disk Information - RDR Virtual Disk 1	Status PCI module 10 Stot0 279.4 GB Duplex (LUN 39/1) Stot1 279.4 GB	Slot2 Empty Slot3	Slot4 Empty Slot5	Empty Slot7	
- Siot 5 - Siot 6 - Siot 7 ⊡ Logical Disk Information - RDR Virtual Disk 1	Status PCI module 10 Stort0 279.4 GB Duplex (LUN 39/1) Stort1 279.4 GB Duplex (LUN 39/2) PCI module 11	Slot2 Empty Slot3 Empty	Slot4 Empty Slot5 Empty	Empty Slot7 Empty	
- Siot 5 - Siot 6 - Siot 7 ⊡ Logical Disk Information - RDR Virtual Disk 1	Status PCI module 10 Stato 279.4 GB Duplex 0LW139/1) Stati 279.4 GB Duplex 0LW139/2) PCI module 11 Stati 279.4 GB	Siot2 Empty Siot3 Empty Siot2	Slot4 Empty Slot5 Empty Slot4	Empty Slot7 Empty Slot6	
- Siot 5 - Siot 6 - Siot 7 ⊡ Logical Disk Information - RDR Virtual Disk 1	Status PCI module 10 Stato 279.4 GB Duplex 0LW139/1) Stati 279.4 GB Duplex 0LW139/2) PCI module 11 Stati 279.4 GB	Siot2 Empty Siot3 Empty Siot2	Slot4 Empty Slot5 Empty Slot4	Empty Slot7 Empty Slot6	

Express5800/R310e-E4, R320e-E4, R320e-M4, R310f-E4, R320f-E4, R320f-M4 Installation Guide (Windows) 257

5.11 Creating Volume

For NEC Express5800/ft series, you need to set mirroring for each disk by the RDR function. If you created a new partition or volume on the disk that has been set RDR and dual configuration, the area is mirrored automatically. You do not need to perform mirroring for each partition or volume.

Important A mirrored volume (RAID-1) or RAID-5 volume cannot be used on a dynamic disk. When a mirrored volume (RAID-1) or RAID-5 volume was built on a dynamic disk, the System FT LED and Safe To Pull LED indicating the status of the ft server may not be displayed correctly, and information of duplex and simplex status of the PCI module may not be output to the event log properly. If you are going to use a dynamic disk, convert only a data disk to a dynamic disk and build as a simple volume, spanned volume, or striped volume.

5.12 Installing Bundled Software for the Server

NEC ESMPRO Agent and NEC ESMPRO Manager are contained in EXPRESSBUILDER.

Make sure that the installed utilities are shown on **Start** - **Programs** or on **Control Panel**. If you did not install these utilities during setup with EXPRESSBUILDER, install them individually by according to *Chapter 2* (*Installing Bundled Software*).

5.13 Enabling OS Boot Monitoring Feature

Enables OS Boot Monitoring feature.

Navigate to OS Boot monitoring Set OS Boot Monitoring feature to **Enabled** on BIOS SETUP according to *Chapter 1 (5.1.3 Disabling OS Boot Monitoring Feature)*. Then, specify the timeout time for **OS Boot Monitoring Timeout** parameter appropriately.

Aptio Setup Utility – Main Advanced Security Server E	Copyright (C) 2014 Ameri Noot Save & Exit	can Megatrends, Inc.	
System Management Power Control Configuration Event Log Configuration FRB-2 Timer PCI Enumeration Monitoring PCI Enumeration Monitoring Timeout Option ROM Scan Monitoring Option ROM Scan Monitoring Obtion ROM Scan Monitoring OS Boot Monitoring OS Boot Monitoring POST Pause Monitoring POST Pause Monitoring Timeout Thermal Sensor POST Error Pause	[Enabled] [Enabled] 180 [Enabled] 300 [Enabled] 600 [Enabled] 180 [Enabled] [Disabled]		
		Fi: General Help F4: Save & Exit Setup ESC: Exit	

5.14 License Authentication

It is necessary to perform license authentication procedure when using Windows Server 2008 R2. Confirm whether the license has been authenticated. If it has not, perform the license authentication procedure.

The following describes the license authentication procedure.

 Open the Control Panel from the Start menu, click 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.

			1012
) 🔁 + 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 X	00000000	-
Advanced system settings	Copyright @ 2009 Microsoft	t Corporation. All rights reserved.	
	System		
	Processor:	Intel(R) Xeon(R) CPU E5506 @ 2, 13GHz 2, 13 GHz	
	Processor: Installed memory (RAM):	Intel(R) Xeon(R) CPU E5506 @ 2, 13GHz 2, 13 GHz 4.00 GB	
	Installed memory (RAM):	4.00 GB	
	Installed memory (RAM): System type:	4.00 GB 64-bit Operating System No Pen or Touch Input is available for this Display	
	Installed memory (RAM): System type: Pen and Touch:	4.00 GB 64-bit Operating System No Pen or Touch Input is available for this Display	Change settings
	Installed memory (RAM): System type: Pen and Touch: Computer name, domain, and w	4.00 GB 64-bit Operating System No Pen or Touch Input is available for this Display orkgroup settings	© Change settings
	Installed memory (RAM): System type: Pen and Touch: Computer name, domain, and w Computer name:	4.00 GB 64-bit Operating System New Touch Input Is available for this Display onlightup settings xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	©Change settings
	Installed memory (RAM): System type: Pen and Touch: Computer name, domain, and w Computer name: Full computer name:	4.00 GB 64-bit Operating System New Touch Input Is available for this Display onlightup settings xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	Change settings
C	Installed memory (RAM): System type: Pen and Touch: Computer name, domain, and w Computer name; Full computer name; Computer description;	4.00 GB 64-bit Operang System No Prino: Touch Input is available for this Display orkgroup settings 300000000000000000 300000000000000000	Schunge settings
ſ	Installed memory (RAM): System type: Pen and Tauch: Computer name, domain, and w Computer name: Full computer name: Computer description: Workgroup:	4.00 GB 64-bit Operang System No Prino: Touch Input is available for this Display orkgroup settings 300000000000000000 300000000000000000	Change astitual
ſ	Installed memory (RAM): System type: Pen and Touch: Computer name, doman, and w Computer name: Pull computer name: Computer description: Workgruup: Windows activation	4.40 68 Hel-HC Operating System. He firm or Touch Taput a svalide for the Dapley orlganous attrast. 2000000000000000000000000000000000000	genuine
See also	Installed memory (RAM): System type: Pen and Tsuch: Computer name; donain, and w Computer name: Ful computer name: Computer description: Werkgraup: Whildows activated Windows activated	4.40 68 Hel-HC Operating System. He firm or Touch Taput a svalide for the Dapley orlganous attrast. 2000000000000000000000000000000000000	in the second

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

🖉 System					- 6	
Ca - Control Panel -	System and Security - System		- (7)	Search Control Panel		
		ut your computer			-	
Control Panel Home	Windows edition					
Device Manager	Windows Server 2008 R2 X	XXXXXXXXXX		-	-	
Remote settings	Copyright (b 2009 Microsoft Corporation. All rights reserved.					
Advanced system settings						
	System				2	
	Processor:	Intel(R) Xeon(R) CPU		6 2.13GHz 2.13 GHz		
	Installed memory (RAM):	4.00 GB	E5500	0 (g) 2.13GHz 2.13 GHz		
	System type:	64-bit Operating System				
	Pen and Touch:	No Pen or Touch Input is	available	for this Display		
	Computer name, domain, and w	orkgroup settings				
	Computer name:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		Chang	e settings	
	Full computer name:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
	Computer description:					
	Workgroup:	WORKGROUP				
See also	Windows activation					
See also Action Center		activation. Activate Windows	now			

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

Vindows Acti		_			
Windo	ws Activation				
Type your	product key				
				ind on the installat ct key to this comp	
The prod	uct key looks like t	his:			
PRO	DUCT KEY: XXX	xx-xxxxx-xxx	xx-xxxxx-xxx	xx	
Where do	I find my Windov	vs product key?			
<u>P</u> roduct K	ey:				
<u>What is a</u>	the second se				
Read the	privacy statement	online			
				Ne	ext Cano

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



Windows activation is now complete.

5.15 Confirming the ft Server Control Software Version

Perform the procedure when you need to check the ft Server Control Software version of the current system before adding devices to NEC Express5800/ft series or updating ft Server Control Software.

Confirm the version following the steps below, and take a note of the displayed version number.

Version: ____.__.

- 1. Log on to the system with an account that has administrator privilege.
- 2. Open Control Panel from the Start menu.
- 3. Open Programs and Features.

If the Programs and Features icon is not displayed, open Programs and click Programs and Features.

4. Check the version of ftServer Control Software from the list of programs.

5.16 Setting TCP/IP Timeout

Timeout values of TCP/IP are changed at setup by adding the following registries on Express5800/ft series.

HKLM\System\CurrentControlSet\Services\Tcpip\Parameters

Value: TcpMaxDataRetransmissions

Type: REG_DWORD

Default: 8

This setting is required if Hyper-V is enabled.

If you are not using Hyper-V on your server, this setting is not required. To restore the factory-set value, run the following batch file with administrator account, and restart the server.

C:\Program Files\NEC\HAS_SW\SUPPORT

SetTcpMaxDR_OsDef.bat

To restore the factory-set value, run the following batch file with administrator account, and restart the server.

C:\Program Files\NEC\HAS_SW\SUPPORT

ResetTcpMaxDR_FtDef.bat

5.17 Checklist Display Function at Installation

The server has a factory-installed feature that displays Setup Checklist during installation to support configuration work. This feature starts after ft Server Control Software is installed at re-installation.

Using this checklist, you can proceed setup work while viewing the items required for setup.

(1) Displaying setup list

When you logon the system with built-in Administrator account, **ft Server Setup list** automatically appears. The checklist appears every time you logon the system unless you specify not to display at next logon.

The first line of dialog shows the version of ft Server Control Software. The version number depends on the time of shipment and software upgraded status.

🚇 ft Server Setup list 📃 🗆 🗙
ft Server Control Software [Version : 8.0.0000.00] was installed. Refer to the Installation guide (Windows), follow the procedures below to complete setup. And check the following checkbox.
1. Install NEC ESMPRO Agent
2. Install Options (LAN, SAS, Fibre Channel board)
3. Update Software
4. Apply Windows Service Pack 1
5. Configure duplex LAN
6. Configure dual Disk
7. Create Volume
8. Change setting of SNMP service for NEC ESMPRO Agent
9. Enable OS Boot Monitoring
10. Setup for Solving Problems
11. Back up System Information
 If Symantec pcAnywhere is installed, system may not operate normally, for example, system may not become duplex.
 When ARCserve Backup or Backup Exec is installed, if the services of these backup softwares have started before system becomes duplex, system may not become duplex or the backup software may not operate normally.
This dialog is displayed also at next logon until all checkbox is checked.

Setup Check List

The following items are checked automatically, and if installation of them are finished, they are dimmed.

- 1. Install NEC ESMPRO Agent
- 4. Apply Windows Service Pack 1

For the other items, click the checkbox to check it when you have finished setup of relevant item.

If you put a mouse onto check item, a help window that shows the page where detailed information is described in User's Guide or Installation Guide.

In addition, read precautions on setup shown in the box below the list.

If all items are checked, a checkbox "Hide this dialog at next logon" appears at bottom of dialog. If you do not want to display this checklist, click the checkbox and close dialog.

📕ft Server Setup list 📃				
ft Server Control Software [Version : 8.0.0000.00] was installed. Refer to the Installation guide (Windows), follow the procedures below to complete setup. And check the following checkbox.				
🔽 1. Install NEC ESMPRO Agent				
2. Install Options (LAN, SAS, Fibre Channel board)				
🔽 3. Update Software				
✓ 4. Apply Windows Service Pack 1				
5. Configure duplex LAN				
✓ 6. Configure dual Disk				
✓ 7. Create Volume				
▼ 8. Change setting of SNMP service for NEC ESMPRO Agent				
9. Enable OS Boot Monitoring				
✓ 10. Setup for Solving Problems				
🔽 11. Back up System Information				
 If Symantec pcAnywhere is installed, system may not operate normally, for example, system may not become duplex. 				
 When ARCserve Backup or Backup Exec is installed, if the services of these backup softwares have started before system becomes duplex, system may not become duplex or the backup software may not operate normally. 				
Setup is completed. If you do not want to show this dialog at next logon, History				
please check the following checkbox.				
Hide this dialog at next logon.				

When all items are checked:

This checklist is not displayed during update of ft Server Control Software.

(2) Re-displaying setup checklist

If you want to open the dialog again, logon the system with built-in Administrator account, and run the following file.

C:\Program Files\NEC\HAS_SW\ftServerSetuplist

ftServerSetupList.exe

Only the user having built-in Administrator account can open this checklist, and can start only one at a time.

(3) Displaying check history

Click the History button to confirm the date and time each item was checked.

📕 His	story	
No	Date	Check 🔺
01 02 03 04 05 06 07 08 09 10 11	2012/10/01 8:48:10 2012/10/01 9:19:31 2012/10/01 9:55:47 2012/10/01 10:56:12 2012/10/01 10:59:33 2012/10/01 11:30:49 2012/10/01 11:33:19 2012/10/01 11:49:05 2012/10/01 12:10:20	ON (Auto) ON ON ON (Auto) ON ON ON ON ON OFF(Initial)
4		Close

Check history

Check column displays:

ON: Item that was checked

ON (Auto): Item that was checked automatically

OFF (Initial): Item that is not checked yet

OFF: Item that was checked once but unchecked later

6. Setup for Solving Problems

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

6.1 Memory Dump (Debug Information)

The following describes the procedures for collecting a memory dump (debug information).

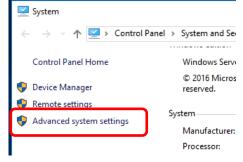
Important	•	If any trouble occurs after specifying the settings below and you attempt to restart the system to save the memory dump, a message informing you that the system is short of virtual memory might appear.
	•	However, this message can be ignored and you can proceed with the restart. If you restart the system a second time, the memory dump might not be stored normally.
	•	As this server has the DedicatedDumpFile configured, the memory dump may not be properly collected depending on the equipped physical memory size and system memory usage. See 6.4 DedicatedDumpFile Configuration.

6.1.1 Windows Server 2016

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

e Bin			
Programs and Features			
Power Options			
Event Viewer			
System			
Device Manager			
Network Connections			
Disk Management			
Computer Management			
Command Prompt			
Command Prompt (Admin)			
Task Manager			
Control Panel			
File Explorer			
Search			
Run			
Shut down or sign out >			
Desktop			

2. Click Advanced system settings.



3. In Startup and Recovery, click Settings.

System Properties	Х
Computer Name Hardware Advanced Remote	
You must be logged on as an Administrator to make most of these changes. Performance Visual effects, processor scheduling, memory usage, and virtual memory	
Settings User Profiles Desktop settings related to your sign-in Settings	
Startup and Recovery System startup, system failure, and debugging information	
OK Cancel Apply]

4. Type a file name to store the debug information in the **Dump file** text box, and then click **OK**.

Startup and Recovery	×
System startup Default operating <u>s</u> ystem:	
Windows Server 2016 \checkmark	
☐ Time to display list of operating systems: 30	
System failure	
$\underline{\vee} \underline{W}$ rite an event to the system log	
Automatically restart	
Write debugging information	
Automatic memory dump V	
Dump file: D:\MEMORY.DMP	
Overwrite any existing file Disable <u>a</u> utomatic deletion of memory dumps when disk space is low	
OK Cancel	

Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump for Write debugging information.
 In addition, if installed memory size is greater than 32GB, there are precautions. Refer to Chapter 1 (6.2 The installed memory size which exceeds 32GB) in Installation Guide (Windows).
- Specify a drive that has a free space of at least "the memory capacity mounted on the server 400 MB".

• The size of the debug information (memory dump) changes if DIMM is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

5. In **Performance**, click **Settings**.

System Properties	\times
Computer Name Hardware Advanced Remote	
You must be logged on as an Administrator to make most of these changes	
Visual effects, processor scheduling, memory usage, and virtual memory)
User Profiles	
Desktop settings related to your sign-in	
Startup and Recovery	
System startup, system failure, and debugging information	
Settings	
Environment Variables	
OK Cancel Apply	

6. Click the Advanced tab on the Performance Options window.

Performance Options X				
Visual Effects Advanced Data Execution Prevention				
Select the settings you want to use for the appearance and performance of Windows on this computer.				
● Let Windows choose what's best for my computer				
○ Adjust for <u>b</u> est appearance				
○ Adjust for best <u>p</u> erformance				
○ <u>C</u> ustom:				
 Animate controls and elements inside windows Animate windows when minimizing and maximizing Animations in the taskbar Enable Peek Fade or slide menus into view Fade or slide ToolTips into view Fade out menu items after clicking Save taskbar thumbnail previews Show shadows under mouse pointer Show shadows under windows Show thumbnails instead of icons Show translucent selection rectangle Show window contents while dragging Slide open combo boxes 				

7. In Virtual memory, click Change.

Performance (Options			×
Visual Effects	Advanced	Data Execution Pr	revention	
	scheduling	ate processor reso	ources.	
Adjust fo	r best perfo	rmance of:		
⊖ <u>P</u> rogra	ams	Backgro	ound <u>s</u> ervices	
- Virtual me A paging	-	ea on the hard dis	sk that Windows use	s as if it
were RAN				
Total pag	ing file size	for all drives:	8192 MB	ıge

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

Virtual Memory	×
Automatically manage Paging file size for each d Drive [Volume Label]	paging file size for all drives nve Paging File Size (MB) System managed
ourcetted annel	C: 366520 MB
	16 MB 1889 MB

9. In **Paging file size for each drive**, enter the value equal or larger than the recommended value for

Initial size, and the value larger than Initial size for Maximum size, and then click Set.

Virtual Memory	×
Automatically manages Paging file size for each Drive [Volume Label] C:	ge paging file size for all drives drive Paging File Size (MB) System managed
Selected drive: Space available:	C: 366520 MB
① <u>C</u> ustom size: <u>I</u> nitial size (MB): Maximum size (MB):	
 System managed siz No paging file 	ze <u>S</u> et
Total paging file size for	all drives
Minimum allowed:	16 MB
Recommended:	1889 MB
Currently allocated:	8192 MB
	OK Cancel

Note the following when specifying a paging file size:

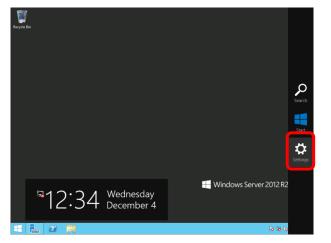
- The paging file is used to collect debug information (dump file). The boot volume must have a paging file of its initial size (Total capacity of physical memory mounted + 400MB or larger) is enough to store the dump file. Make sure to specify a sufficient paging file size (recommended size: Total capacity of physical memory mounted x 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.
- 10. Click **OK**.

If a message to restart Windows appears, restart the system according to on-screen message.

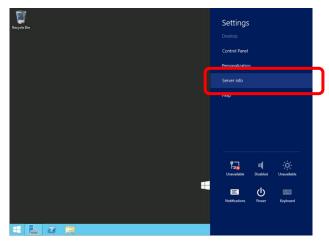
Specification of the memory dump settings is now complete.

6.1.2 Windows Server 2012 R2

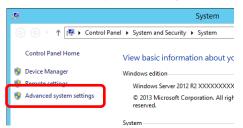
1. On the Charms bar, click Settings.



2. Click Server info.



3. Click Advanced system settings.



4. In Startup and Recovery, click Settings.

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

5. Type the path to a dump file in **Dump file**, and then click **OK**. <Example for specifying "MEMORY.DMP" on drive D>

Startup and Recovery
System startup Default operating system: Windows Server 2012 R2
System failure Image: System failure Image: System log Image: System log
Automatic memory dump
OK Cancel

Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump of Writing debugging information. In addition, if installed memory size is greater than 32GB, there are precautions. Refer to *Chapter 1 (6.2 The installed memory size which exceeds 32GB)* in *Installation Guide (Windows)*.
- Specify a drive that has a free space of at least "the memory capacity mounted on the server + 400 MB" or more.
- 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.

- 6. 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 change Performance Visual effects, processor scheduling, memory usage, and virtual memory Settings	s.
User Profiles Desktop settings related to your sign-in Settings]
Startup and Recovery System startup, system failure, and debugging information Settings	
Environment Variables,	
OK Cancel Apply	/

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

Performance Options X			
Visual Effects Advanced Lata Execution Prevention			
Processor scheduling			
Choose how to allocate processor resources.			
Adjust for best performance of:			
Programs O Background services			
Virtual memory			
A paging file is an area on the hard disk that Windows uses as if it were RAM.			
Total paging file size for all drives: 1024 MB			
OK Cancel Apply			

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

Virtual Memory	x
Automatically manage paging file size for all drives	
Paging file size for each drive Drive [Volume Label] Paging File Size (MB)	
C: System managed	
Selected drive: C: Space available: 122480 MB © Custom size: Initial size (MB): System managed size No paging file Set	
Total paging file size for all drives Minimum allowed: 16 MB Recommended: 1024 MB Currently allocated: 1024 MB	
OK Cancel	

 In Paging file size for each drive, enter the size equal or larger than the recommended size for Initial size, and the value larger than Initial size for Maximum size, and then click Set.
 Follow the instruction described later to set the size because the recommended values of this unit are other than those displayed in the "Recommended: " on the screen.

Virtual Memory X
Automatically manage paging file size for all drives Paging file size for each drive Drive [Volume Label] Paging File Size (MB) C: System managed
Selected drive: C: Space available: 122480 MB
Custom size: Initial size (MB): Maximum size (MB): System managed size No paging file Set
Total paging file size for all drives Minimum allowed: 16 MB Recommended: 1024 MB Currently allocated: 1024 MB
OK Cancel

Note the following when specifying a paging file size:

- The boot volume (usually created in drive C:) 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. Specify "Total capacity of physical memory mounted + 400MB" or larger size.
- Make sure to specify a sufficient paging file size (recommended size: Total capacity of physical memory mounted × 1.5 or more) for entire system.
- See System partition size in Chapter 1 (3.1 Before Starting Setup) for recommended value.
- When DIMM is added, re-specify the paging file according to the increased memory size.
- 10. Click OK.

If a message to restart Windows appears, restart the system according to on-screen message.

Specification of the memory dump settings is now complete.

6.1.3 Windows Server 2008 R2

Follow the procedure below to specify the memory dump settings.

1. Select Control Panel from the Start menu.

The Control Panel window appears.

2. Click System and Security on the Control Panel window.

If View by is not Category, select System from Control Panel directly.

- 3. Click System.
- 4. Click Advanced system settings.

Tips

The System Properties dialog box appears.

	🛃 System	
	🚱 🖓 🖳 🕶 Control Panel 🔹	• System and Security • System •
	Control Panel Home	View basic information about your computer
	🛞 Device Manager	Windows edition
	Demote cettings	Windows Server 2008 R2 Enterprise
ſ	Advanced system settings	Copyright © 2009 Microsoft Corporation. All rights reserved.
U	W Ravancea system settings	Service Pack 1
1		

5. Click Settings under Startup and Recovery.

System Properties	×
Computer Name Hardware Advanced Remote	
You must be logged on as an Administrator to make most of these changes.	
Performance	
Visual effects, processor scheduling, memory usage, and virtual memory	
Settings	
User Profiles	
Desktop settings related to your logon	
Settings	
Startup and Recovery	
System startup, system failure, and debugging information	
Settings	
Environment Variables	
OK Cancel Apply	

6. Specify the folder to store the debug information in the **Dump file:** text box and click **OK**.

Example: To store the debug information in D drive under the file name MEMORY. DMP:

Default ope	erating syste	m:				
Windows	Server 2008	R2				•
🔽 Time to	display list d	foperating	systems:	30	÷se	con
🔲 Time to	display reco	very option	s when nee	ded: 30	÷ se	con
System fail	ure					
🔽 Write a	n event to th	ne system lo	g			
Automa	tically restar	t				
Write deb	ugging inforr	mation				
Kernel m	emory dump		1	•		
Dump file:				_		
D: MEMO	RY.DMP					
	rite any exis	ting file				

Note the following when specifying a dump file.

- For the Write debugging information drop-down list, we recommend specifying Kernel memory dump. If installed 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. In addition, if installed memory size is greater than 128 GB, there are precautions. Refer to Chapter 1 (6.2 The installed memory size which exceeds 32GB) in Installation Guide (Windows).
- 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) to be collected changes if memory is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.
- Do not remove checkmark (uncheck) from Automatically restart check box.

7. Click Settings under Performance.

The Performance Options dialog box 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 logon	
Settings	
System startup, system failure, and debugging information Settings	
Environment Variables OK Cancel Apply	

8. Click the Advanced tab on the Performance Options dialog box.

Performance Options			
Visual Effects Advanced Data Execution Prevention			
Select the settings you want to use for the appearance and performance of Windows on this computer.			
C Let Windows choose what's best for my computer			
O Adjust for best appearance			
O Adjust for best performance			
C Custom:			
Animate controls and elements inside windows			
Animate windows when minimizing and maximizing			
Animations in the taskbar and Start Menu			
Fade or slide menus into view Fade or slide ToolTips into view			
Fade out menu items after clicking			
Show shadows under mouse pointer			
Show shadows under windows			
Show translucent selection rectangle			
Show window contents while dragging			
Slide open combo boxes			
Smooth edges of screen fonts			
Use drop shadows for icon labels on the desktop			
✓ Use visual styles on windows and buttons			
OK Cancel Apply			

9. Click Change under Virtual memory.

Performance Options			×
Visual Effects Advan	ced Data Exe	cution Prevention	1
Visual Effects Advan Processor schedulir Choose how to allo Adjust for best per O Programs Virtual memory A paging file is an a if it were RAM. Total paging file siz	formance of: • Back • Back	resources. ground services d disk that Windo	
	ОК	Cancel	Apply

10. Clear the **Automatically manage paging file size for all drives** check box, and then select the **Custom size** option button.

Virtual Memory	×
Automatically mana	age paging file size for all drives
Paging file size for eac Drive [Volume Label] C: E: [New Volume]	ch drive Paging File Size (MB) 2048 - 4096 None
Selected drive: Space available: Custom size: Initial size (MB): Maximum size (MB): C System managed: C No paging file	C: 23998 MB 2048 4096 size
Total paging file size fi Minimum allowed:	16 MB 6120 MB 4080 MB
	OK Cancel

280 Express5800/R310e-E4, R320e-E4, R320e-M4, R310f-E4, R320f-E4, R320f-M4 Installation Guide (Windows)

11. In the Paging file size for each drive group box, specify as follows:

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

For the **Maximum size** text box, specify a value equal to or greater than the value specified in the **Initial size** text box.

Virtual Memory	×
Automatically mana	ge paging file size for all drives
Paging file size for eac Drive [Volume Label] C: E: [New Volume]	
Selected drive: Space available:	C: 23998 MB
 Custom size: Initial size (MB): Maximum size (MB): 	2048 4096
C System managed s C No paging file	set
	16 MB 6120 MB
	OK Cancel

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 might not be able to 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 Chapter 1 (5.1 Before Starting Setup).
- When memory is added, re-specify the paging file according to the increased memory size.
- 12. Click OK.

A message to restart the system might appear, depending on the modifications made. In this case, restart the system.

Specification of the memory dump settings is now complete.

6.2 The installed memory size which exceeds 32GB

When you collect Complete memory dump on a system where the installed memory size exceeds 32GB, there is a possibility that the memory dump can't be normally collected depend on the OS version, the ft Server Control Software version and the memory dump collection method. Please refer to the following table and check your system environment.

Important
This is the notes for collecting Complete memory dump, but even when you collect Kernel memory dump, if memory usage (Kernel area) during OS running correspond to "installed memory size" on the table below, the dump file can't be collected.

Even when you collect Kernel memory dump, for example, if the OS is Windows Server 2008 R2 (ft Server Control Software: 10.0.xxxx) and installed memory size is 256GB, select the combination setting which can collect the dump file such as enabling Quick Dump feature.(*1)

■ Even if the combination setting on the table below is [×: unable to collect], there is a case that Kernel memory dump can be collected. If there is not the combination setting which is possible to collect Complete memory dump, please change the setting to collect Kernel memory dump.

ft Server		Memory dump	Installed memory size						
OS	Control Software	collection method (*1)	32GB or less	48GB	64GB	96GB	128GB	256GB	512GB
Windows		OS Standard dump	O(*2)	O(*2)	O(*2)	O(*2)	O(*2)	O(*2)	O(*2)
2016	Server 11.x.xxxx 2016	Online dump/ Quick dump	0	∆(*3)	∆(*3)	∆(*3)	∆(*3)	∆(*3)	∆(*3)
	11.x.xxxx	OS Standard dump	O(*2)	O(*2)	O(*2)	O(*2)	O(*2)	O(*2)	O(*2)
Windows Server	Online dump/ Quick dump	0	∆(*3)	∆(*3)	∆(*3)	∆(*3)	∆(*3)	∆(*3)	
2012 R2		OS Standard dump	0	0	0	×	×	×	×
	10.0.xxxx	Online dump/ Quick dump	0	×	×	×	×	×	×
Windows Server 10.0. 2008 R2	10.0.xxxx	OS Standard dump	0	0	0	0	0	×	×
	10.0.2222	Online dump/ Quick dump	0	0	0	0	0	0	0

O: able to collect Δ : unable to collect on default setting(able to collect by change setting) ×: unable to collect

(*1) ft server has the following specific method for collecting dump except OS Standard dump.

[Collecting by Online dump feature]

This is the feature that collect memory dump without stopping system. There are some method as follows.

- Select Harvest memory dump of the current system without stopping it. on ft server utility and click Harvest button in Dump
- Choose Maintenance on NEC ESMPRO Manager and click Execute button in Dump

[Collecting by Quick dump feature]

This feature is executed at the time of system crush or pressing **DUMP** switch while Quick dump feature is enabled. The procedure for enabling Quick dump feature is as follows. (*Default setting of Quick dump feature is set to be disabled.)

(*Default setting of Quick dump feature is set to be disabled.)

On ftserver utility, open [FTServer] – [General]. Check the [Enable quick dump that is harvested at the same time of reboot] check box and click [Apply]. Click [OK] on Confirmation screen.

- Important
 On collecting by Online dump feature, CPU module changes to simplex state temporarily and memory dump image is written to the disk.
 - On collecting by Quick dump feature, memory dump image is written to the disk after system reboot by system crush or pressing DUMP switch. During that time, CPU module is simplex state temporarily.
 - Whichever collecting method you choose, CPU module changes to simplex state until the completion of writing memory dump image. Therefore, please note that it takes a longer time than usual to be duplex state.

(Example: When the size of Dump file which is saved is 96GB, it takes about 120 minutes.)

- (*2) When the memory dump is collected by the occurrence of the system crash or pressing **DUMP** switch, it takes 3 minutes longer than usual until CPU module becomes duplex after OS is rebooted. In addition, during that time, there is possibility that ft server utility or RDR Utility can't display information because they can't get specific information of ft server. In such cases, start ft server utility or RDR Utility after 3 or more minutes.
- (*3) On default setting, memory dump can't be normally collected. Collect memory dump after change setting by using each procedure as follows according to collection method.

[Collecting by Online dump feature]

Change setting by using the following procedure before collect memory dump by **Online dump feature**. In addition, this setting returns to default by OS reboot, then you need to perform the procedure again.

- 1. Right click the lower left corner of the screen, select Run.
- 2. Type as follows and click **OK** button.
 - "C:\Program Files\ftsys\Utility\DumpDelaySetting\OnlineDump.BAT"
- 3. Setting is completed if it is displayed as follows in the command prompt. Press any key and close it.

Setting of DumpSaveDelayMs for OnlineDump is starting.

Setting has been completed. Press any key to continue . . .

[Collecting by Quick dump feature]

Change setting by using the following procedure before collect memory dump by Quick dump feature. In addition, this setting does not return to default if OS is rebooted. Therefore, it is unnecessary to set again.

If you need to return to default setting, perform procedure(*4) as below.

- 1. Right click the lower left corner of the screen, select Run.
- 2. Type as follows and click **OK** button.
- "C:\Program Files\ftsys\Utility\DumpDelaySetting\QuickDump.BAT"
- 3. Setting is completed if it is displayed as follows in the command prompt. Press any key and close it.

Setting of DumpSaveDelayMs for QuickDump is starting.

Setting has been completed. Press any key to continue . . . Important If you execute OnlineDump.BAT or QuickDump.BAT and collect memory dump by Online dump feature or Quick dump feature, ft server utility or RDR Utility can't display information because they can't get specific information of ft server for more than 30 minutes(: the case that installed memory size is 512GB), and then ESMPS service is stopped. If ESMPS service is stopped, please start ESMPS service manually.

- (*4) After execute QuickDump.BAT, when you return to default setting, perform the following procedure. In addition, this setting does not return to default if OS is rebooted. Therefore, it is unnecessary to set again.
 - 1. Right click the lower left corner of the screen, select Run.
 - 2. Type as follows and click **OK** button.
 - "C:\Program Files\ftsys\Utility\DumpDelaySetting\SaveDump.BAT"

3. Setting is completed if it is displayed as follows in the command prompt. Press any key and close it.

Setting of DumpSaveDelayMs for SaveDump is starting.

Setting has been completed. Press any key to continue . . .

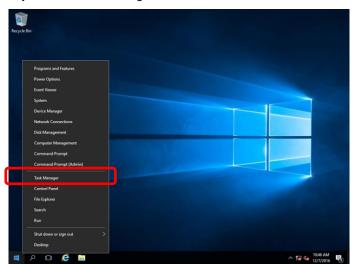
6.3 How to Create a User-mode Process Dump File

The user-mode process dump file records information when an application error occurs.

If an application error occurs, please get user-mode process dump information using the following procedures without closing the pop-up window that reported the error:

6.3.1 Windows Server 2016

1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start Task Manager.



2. Click More details.

🕎 Task Manager	_		×
	There are no running apps		
O More <u>d</u> etails		<u>E</u> nd 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

Tips	If the folder is not displayed, open Explorer, select Hidden items in the View tab.				
	Image: Constraint of the state File Home Share View	- 0	× ⊸ ?		
	Image: Preview pane pane pane pane pane pane pane pane	Hide selected items	Options •		

You can get the user-mode process dump file from the folder shown in step 5.

6.3.2 Windows Server 2012 R2

- 1. Right-click the left bottom of screen and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.
- 2. Click More details.

	Task Manager	-		x
ᡖ Server Manager				
✓ More details)		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



You can get the user-mode process dump file from the folder shown in step 5.

6.3.3 Windows Server 2008 R2

- 1. Right-click an empty area of the taskbar and then click **Task Manager**, or press **<Ctrl>** + **<Shift>** + **<Esc>** keys to start **Task Manager**.
- 2. Click the **Processes** tab.
- 3. Right-click the name of the process that you want to obtain 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	The folder above may be treated as a hidden folder.
	If the folder is not displayed, perform the following:
	For Windows Server 2008 R2:
	Open Explorer, click Organize and then Folder and search options. Click the View tab
	and then select the Show hidden files, folders, and drives check box.

Once the user-mode process dump file has been created, obtain the file from the folder in step 4.

User-mode process dump file creation is now complete.

6.4 DedicatedDumpFile Configuration

This server has the DedicatedDumpFile configured by default so that the minimum amount of information is collected upon memory dump collection by the Windows OS when malfunction occurs, even if the physical memory size is bigger than the paging file size. If the appropriate paging file size is set, the DedicatedDumpFile is not necessary. Please confirm the necessity of the DedicatedDumpFile by the method described in the next section.

Note	If you update ft Control Software, the DedicatedDumpFile is reconfigured, so confirm the settings for DedicatedDumpFile after the update is complete
	Review of the DedicatedDumpFile is necessary whether the memory dump type is "kernel memory dump" or "complete memory dump".
Tips	The DedicatedDumpFile is a standard Windows Server function that is used as storage space for memory information instead of the paging file when the Windows OS collects memory dump. If there is a DedicatedDumpFile when collecting memory dump, the memory information is first stored in the DedicatedDumpFile before the memory dump file is created. If there is no DedicatedDumpFile, the memory information is first stored in the paging file before the memory dump file paging file before the memory dump file is created. The DedicatedDumpFile only has an effect when memory dump is collected. It does not affect normal system operation even if the settings do not match the physical memory size.

6.4.1 How to Decide Whether to Cancel or Change DedicatedDumpFile Settings

Confirm if the paging file necessary to collect memory dump is configured.

The paging file size needed to collect memory dump for each OS is listed below.

Windows Server 2016: Physical memory + 400 MB or more Windows Server 2012 (including R2): Physical memory + 400 MB or more Windows Server 2008 (including R2): Physical memory + 300 MB or more

Note

The recommended paging file size is 1.5 times the physical memory size or more.

Whether the memory dump type is "complete memory dump" or "kernel memory dump", the needed paging file size for memory dump collection is the same.

There is no problem if the paging file of the size shown above is set on the system disc (C drive). If configuring the paging file on the drives other than the system disc, See 3.1.1 Before Starting Setup (In case of Windows Server 2012 R2: see 4.1.1, Windows Server 2008 R2: see 5.1.1).

If the paging file necessary for file dump collection is set, the DedicatedDumpFile is not needed. See *6.4.2 Cancelling DedicatedDumpFile Configuration* and cancel the configuration.

If the paging file necessary for file dump collection is not set, the DedicatedDumpFile is needed. See 6.4.3 *Changing DedicatedDumpFile Configuration (Not Cancel)* and adjust the settings to match the physical memory size.

6.4.2 Cancelling DedicatedDumpFile Configuration

Important Be aware of the following when configuring the DedicatedDumpFile.

- Take caution when editing the registry.
- The OS needs to be restarted for the configuration to take effect.
- 1. Open the Registry Editor and delete the following 2 registries (DedicatedDumpFile and DumpFileSize).

Key:	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\CrashControl
Name:	DedicatedDumpFile
Туре:	REG_SZ
Data:	C:\NtKernel.dmp (Initial value)
Key:	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\CrashControl
Name:	DumpFileSize
Туре:	REG_DWORD
Data:	(Initial value: Decimal values from 8193 to 14336)

- 2. Restart the OS to put the configuration into effect.
- 3. If the DedicatedDumpFile is still in the C: Drive (C:\NtKernel.dmp), delete it. As it is a hidden attribute file, if using command prompt, the command must be executed with "/ah" option added.
 - (Command examples)

dir C:\NtKernel.dmp /ah	* Confirm whether or not the file exists

del C:\NtKernel.dmp /ah * Delete the file

6.4.3 Changing DedicatedDumpFile Configuration (Not Cancel)

Be aware of the following when configuring the DedicatedDumpFile. Important

- Take caution when editing the registry.
- The OS needs to be restarted for the configuration to take effect.
- Specify a drive with equipped memory size + 400 MB of free storage or more.
- The DedicatedDumpFile cannot be set to dynamic volume.
- The DedicatedDumpFile is used only for collecting memory dump, and cannot be used as virtual memory. Configure the paging file to secure enough virtual memory for the entire system.
- 1. Open the Registry Editor and change the following 2 registries (DedicatedDumpFile and DumpFileSize).

Key: Name:	HKEY_LOCAL_MAG	CHINE\SYSTEM\CurrentControlSet\Control\CrashControl
Type:	REG_SZ	
Data:	C:\NtKernel.dmp	 Change the save destination drive as needed. (Example) D:\NtKernel.dmp
Key:	HKEY_LOCAL_MA	CHINE\SYSTEM\CurrentControlSet\Control\CrashControl
Name:	DumpFileSize	
Type:	REG_DWORD	
Data:	16784	← Set it at physical memory + 400 MB (or 300 MB) or more.
		The unit of settings value is MB.

- 2. Restart the OS to put the configuration into effect.
- 3. If you changed the save destination drive of the DedicatedDumpFile, Check if the file before the change was implemented (C:\NtKernel.dmp) still exists after restarting the OS. If it is still there, delete it. As it is a hidden attribute file, if using command prompt, the command must be executed with "/ah" option added.

(Command examples)

- dir C:\NtKernel.dmp /ah
 - * Delete the file
- * Confirm whether or not the file exists

del C:\NtKernel.dmp /ah

7. Windows OS Parameter File

Create a parameter file by configuring setup information required for OS installation.

If a parameter file is used when performing Setup with EXPRESSBUILDER, you can re-install an OS with settings used at the previous installation.

7.1 Creating Windows OS Parameter File

Note	Do not remove EXPRESSBUILDER DVD from the drive while using it.
Tips	Use Internet Explorer 7 or later version for creating a parameter file.

- 1. Start Windows.
- 2. Insert the EXPRESSBUILDER DVD into the server and run \autorun\dispatcher_x64.exe.
- 3. Click Files for Setup.

	NEC EXPRESSBUILDER	
EXPRESSBUILDER		NEC
	Instruction Manuals	
0	Versions	
Ŧ	Integrated Installation	
	Applications	
	Files for Setup	
1×1	Exit	
		Version 7.00-000.01(000)

4. Click Parameter file for Windows OS.

		NEC EXPRESSBUILDER	
EXPRE	ESSBUILDER		NEC
	Files for Setur)	
0			
F			
		Parameter file for Windows OS	
k			

The following window appears.



- 5. On the **OS selection** menu, select either of the following:
 - When creating a parameter file: Go to Step 6.
 - When editing a parameter file: Go to Step 7.
- 6. To create a parameter file, select an OS from the menu by using the following procedure.
 - 6-(1) Click Manual Selection.

 Create a parameter file for Windows
1 2 Selection Settings Confirmation
Select an operating system to install. (Choose Manual Selection when configuring a RAID array only)
Manual Selection
Choose the operating system similar and system statements statemen
Setup

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

Create a para	meter file for Window	s				×
		1 OS selection	2 Settings			
	Choice					
		Select an operating sy				
		Windows	Windows Server 20	016 🔽		
	?	○ RAID Configurati	on Only			
		OK	Cance	I		
					Set	
		OK	Cance	1	Set	up

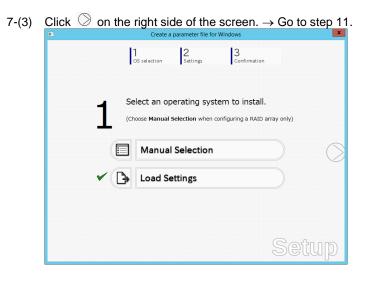
6-(3)	Click \bigcirc on the right side of the screen. \rightarrow Go to step 8.			
	1 2 3 OS selection 2 Settings 3 Confirmation			
	Select an operating system to install. (Choose Manual Selection when configuring a RAID array only)			
	✓	\bigcirc		
	Load Settings			
	Set	up		

7. To modify a parameter file, select an OS from the menu by using the following procedure.

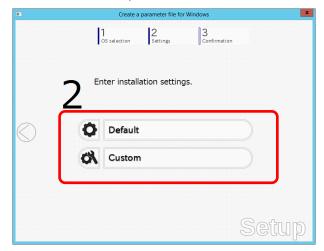
7-(1)	Click Load Settings.
	Create a parameter file for Windows
	1 2 3 OS selection Settings Confirmation
	Select an operating system to install. (Choose Manual Selection when configuring a RAID array only)
	Manual Selection
	Load Settings
	Seruh

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

		Open			x
Look in: 📗 🛙	Documents	•	+ 🗈 (*	
Name	•		Date mo	dified	Ту
sa.tre			6/11/201	4 1:34 PM	TF
<	Ш				>
File <u>n</u> ame:	*.tre			<u>O</u> pen	
Files of type:	parameter file(*.tre)		•	Cancel	



- 8. Specify the parameters by using either of the following methods: - Default: Go to step 9
 - Custom: Go to step 10.



9. Click Default.

	Create a parameter file for Windows	x
	1 Selection Settings 3 Confirmation	
	2 Enter installation settings.	
\bigcirc	Default	
	Custom	
	Setup)

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

0	Wizard			
s	Specify the minimum settings to set up the co Nick Custom if you want to use the Windows			
	Basic Settings Operating system : Win	idows Server 2016		
		andard (Desktop Experience)	<u>v</u>	
	Password Settings Administrator Password Reenter Administrator Password	:	(Required)	
	Finish		Cancel	
			SEIU	ΠŲ.

- ng conditions: Contains six or more characters Contains characters from at least three of the following categories: numbers,
- uppercase letters (A Z), lowercase letters (a z), and symbols.

9-(2)	Click	on the	e right sid	de of the parameter file for	SCIECON.		X
					3 Confirmation		
		2	Enter install	ation setting	IS.		
	\bigcirc	~ 0	Default				\bigcirc
		ø	Custom)			
						Set	up.

9-(3) Check the settings, and then click **Save**. Save the file according to the on-screen instructions. \rightarrow Go to step 12.

Create a paramete	r file for Windows		×
	1 OS selection	2 3 Settings Confirmation	
	Confirm install	-	
		g settings are correct or not)	
\bigcirc	Operating system	: Windows Server 2016	
	(Install Windows using EXPRESS	BUILDER)	
	Edition Language Time Zone	: Standard (Desktop Experience) : English . (UTC-08:00) Pacific Time (US &	
		Canada)	
		Caf	
		SEL	gip i
		Set	up

10. Click Custom.

		Create a paramete	r file for Windows	5	x
	1 OS sele	ection 2 Settin	gs 3	nfirmation	
-	D Enter	installation s	ettings.		
\bigcirc	Ö De	efault			
	CI	ustom]
				S	etup

10-(1) RAID Configuration is unavailable on this server. Click Next.

Create a parameter file for windows
11 10 10
Wizard
An operating system will be installed to the logical drive on the following RAID controller: Uninstall all RAID controllers not to be used for the OS installation if the incorrect RAID controller is selected.
Device Information
RAID Controller : No RAID controller is found.
Number of Physical Drives : 1
Summary of RAID Array
RAID Configuration
Skip Configuring RAID Array
1 / 11 Page
Next
), je li je

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

d	thoose Use Windows standard installer to install Windows by using the installer on the Windows installation the install windows using EXPRESSBUILDER to install both the operating system and applications easily			
	- Basic Settings Cperating system : Windows Server 2016			
Use Windows standard installer				
~	Install Windows using EXPRESSBUILDER Edition : [Standard (Desktop Experience)			
	Language : Enclish Time Zone : (UTC-08:00) Pacific Time (US & Canada)			
	4 / 11 Page			
	Back Next Cancel			

10-(3)	Specify	the settings o	f Partition S	Settings a	s needed,	and ther	n click Ne z	xt
--------	---------	----------------	---------------	------------	-----------	----------	---------------------	----

Wizard			
cify the settings of the system partition for Windows. dows will be installed on the first hard disk drive or logical drive.			
Partition Settings			
Create a new partition			
O Use all space			
Type a partition size : [
5 / 11 Page			
Back Next Cancel			
)UIII OC	Ø		
	Adows will be installed on the first hard disk drive or logical drive. Partition Settings Create a new partition Use all space Type a partition size (Minimum:40GB / Recommended:40GB / Maximum:262143GB) S / 11 Page	Adows will be installed on the first hard disk drive or logical drive. Partition Settings Create a new partition Use all space Type a partition size (Minimum:40GB / Recommended:40GB / Maximum:262143GB) S / 11 Page	Adverse will be installed on the first hard disk drive or logical drive. Partition Settings Create a new partition Use all space Type a partition size (Minimum:40GB / Recommended:40GB / Maximum:262143GB) S / 11 Page

Partition size

 Specify a partition size larger than the minimum required for installing the operating system. (See Chapter 1 (3.1 Before Starting Setup or "System partition size" in 4.1 Precautions)).
 Specify the value equal to 2,097,152 MB or smaller for the partition of Windows Server 2008 R2.

 The entire contents of the hard disk drive will be erased.

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

Personalize this computer. Type Computer Name within 15 charact	
three of the four categories (numbers/up)	percase/lowercase/symbols).
User Information	
Computer Name	: Automatic Numbering
User Name	BD5639933886 (Required) : Administrator
Administrator Password	: Required)
Reenter Administrator Password	: Required)
	6 / 11 Page
	Type Computer Name within 15 charact dynmistrator Password must be at least three of the four categories (numbers/upp User Information Computer Name User Name Administrator Password

 Note
 Administrator Password need to meet the following conditions:

 Contains six or more characters
 Contains characters from at least three of the following categories: numbers, uppercase letters (A - Z), lowercase letters (a - z), and symbols.

 Tips
 If you want to type your computer name, clear the Automatic Numbering check box and type the name in text box.

10-(5) **Network Protocols** cannot be set on this server. Click **Next**

		Creat	te a parameter fil	e for Windows	
		11	10	12	
	izard				
Stan	dard Settings	must be choser	n.		
	Network Protoc				
	Stand	dard Settings			
		n Settings			
	Standard	d Adapter - Intern	et Protocol (IPv4)	~	Advanced
					7 / 11 Page
	Back	Next			Cancel

10-(6) Specifying domain or workgroup is unavailable on this server.

Crea	te a parameter file	for Windows	
11	10	10	
Wizard			
Vorkgroup name and domain setti	ngs will be able to	specify after the	OS installation.
 Join a workgroup 			
Workgroup Name	: WORKG	ROUP	
 Join a domain 			
Domain Name	:		
Account Name	:		
Password	:		
Reenter Password	:		
			8 / 11 Page
Back Next			Cancel
	Wizard Workgroup name and domain setti	Wizard Workgroup name and domain settings will be able to	Wizard Workgroup name and domain settings will be able to specify after the

10-(7) Specify the settings of Windows components as needed, and then click Next.

Choo	rizard Ise Windows components yo	ou want to install.	
	Server Roles		
		Print and Document Services	
		File Services	
	DNS Server	□ Hyper-V	
	Windows Features		
	SNMP Service		Advanced
	Simple TCP/IP Service	5	
	WINS Server		
			9 / 11 Page
	Back Ne	ext	Cancel

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

	Wizard NEC ESMPRO Agent is mandatory.		
ŀ	Available Applications		Selected Applications
()	Description	Add >>	NEC ESMPRO Agent Express Report Service (HTTPS)
			10 / 11 Page

Click Finish at the following window.

Create a parameter file for Windows				
	11			
Wizard				
The setting	s are now complete. I to close this windo	N.		
1				
				11 / 11 Page
	Back Fi	nish		Cancel
				DEUU

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

•	Create a parameter me for windows	
	1 2 3 OS selection Settings Confirmation	
	Enter installation settings.	
\bigcirc	Default	\bigcirc
	Custom	
	Se	tup

Check the settings, and then click **Save**.

r file for Windows		×
1 OS selection 2 Settin	gs Confirmation	
2		
Operating system	: Windows Server 2016	E
(Install Windows using EXPRESSBUILD Edition Language Time Zone	ER) : Standard (Desktop Experience) : English . (UTC-08:00) Pacific Time (US & Canada)	*
	Save St) etup
	Confirm installation (Check if the following setti Operating system (Install Windows using EXPRESSBUILD Edition Language	1 2 3 Os selection 2 3 Confirm installation settings. 3 Check if the following settings are correct or not) Operating system :: Windows Server 2016 (Install Windows using EXPRESSBUILDER) Edition :: Standard (Desktop Experience) Language :: English Time Zone :: Canada) Save

11. Click OK.

•	Create a parameter file for Windows					
	1 2 3 CS selection Settings Confirmation					
	1 Information					
	Saving the file is complete. [Message ID : D1000]					
	8					
	ОК					
	261					

12. Click Yes to complete parameter file creation.

Create a parameter file for Windows					×
ļ.		2 Settings	3 Confirmation		
3 Selection					
	o you want to s S?	stop creating a pa	arameter file for Wir [Message ID :		
0					
	Y	'es	No		
				Seu	(JD)

Creation of parameter file is now complete.

8. Backing Up System Information

When replacing the server, system information including system-specific information, BIOS configuration, and/or BMC configuration data can be inherited to the new server. Refer to "BMC Configuration User's Guide" for how to back up the system information.

Note

Backup/restore process must be performed on duplex system configuration. If it is performed on simplex system configuration, the information may not be inherited correctly. Refer to *Chapter 1 (5. Names and Functions of Components)* in *User's Guide* for how to verify the duplex system configuration.

9. Precautions for Using Hyper-V

Express5800/ft series supports Hyper-V feature.

This section describes precautions for using Hyper-V with Express5800/ft series. Refer to the URL below for precautions other than those described in this section.

Windows Server 2016

Support Information for Windows Server 2016 Hyper-V on Express5800 Series Servers http://www.58support.nec.co.jp/global/download/w2016/hyper-v/hyper-v-ws2016.html

Windows Server 2012 R2

Support Information for Windows Server 2012 R2 Hyper-V on Express5800 Series Servers http://www.58support.nec.co.jp/global/download/w2012r2/hyper-v/hyper-v-ws2012r2.html

Windows Server 2008 R2

http://www.58support.nec.co.jp/global/download/w2k8r2/hyper-v/hyper-v-v2.html

9.1 System Down Time Caused by Duplexing CPU Module

In the duplex process of CPU modules, a memory copy is performed to duplex memory on both the CPU modules. The system does not respond for a longer period of time during the duplex process of CPU modules as compared to when Hyper-V is not used. The following are the reference values of each model.

Important • Starting a memory copy does not cause OS shutdown. However, a process that was running before copying is interrupted, and it does not respond for a certain period of time. The interrupted process will be resumed after the memory copy is completed.

- The time required for copying increases in proportion to the installed memory size.
- When a large amount of memory is installed, non-responding time will become longer and the connection from a client may time out. Adjust the timeout values of TCP/IP, etc., on the client side as necessary.

Model/Memory Size	8GB	16GB	32GB	64GB	128GB	256GB	512GB
Express5800/R310e-E4 Express5800/R310f-E4	2 sec	3 sec	5 sec.	8 sec	16 sec	30 sec	-
Express5800/R320e-E4 Express5800/R320f-E4	2 sec	3 sec	5 sec.	8 sec	16 sec	30 sec	60 sec.
Express5800/R320e-M4 Express5800/R320f-M4	2 sec	3 sec	3 sec.	7 sec	10 sec	18 sec	27 sec.

Use the above memory copy time as a guide when no load is applied to OS. The actual time differs depending on the status of use.

NEC Express5800 Series Express5800/R310e-E4, R320e-E4, R320e-M4, R310f-E4, R320f-E4, R320f-M4

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

I.I NEC ESMPRO Agent (for Windows)

NEC ESMPRO Agent (for Windows) is an application used to monitor the server.

The application is automatically installed when Windows OS is installed by EXPRESSBUILDER.

For details, see NEC ESMPRO Agent Installation Guide (Windows) in EXPRESSBUILDER.

1.2 NEC ESMPRO Agent Extension

NEC ESMPRO Agent Extension can manage this server remotely with NEC ESMPRO Manager monitoring the BMC of the server.

For details, see NEC ESMPRO Agent Extension Installation Guide in EXPRESSBUILDER.

1.3 RDR

This server duplexes hard disk drives to secure data by using the Rapid Disk Resync (RDR) feature.

The ft Server Control Software includes the feature. Duplex each hard disk drive after installing the software.

I.4 BMC Configuration

BMC Configuration is a utility for specifying the settings of the BMC.

The utility is automatically installed when Windows OS is installed by EXPRESSBUILDER.

For details, see BMC Configuration User's Guide in EXPRESSBUILDER.

1.5 NEC ExpressUpdate Agent

NEC ExpressUpdate Agent can manage and update the versions of the firmware and software installed in this server.

You can install the downloaded packages easily by using NEC ExpressUpdate.

For details, see NEC ExpressUpdate Agent Installation Guide in EXPRESSBUILDER.

 Tips
 Refer to the following website to install the packages that do not support the feature of NEC ExpressUpdate

 http://www.nec.com/global/prod/express/index.html

[Related Links] – [Download]

1.6 Express Report Service / Express Report Service (HTTPS)

To avoid system failures or to maintain the server quickly, Express Report Service / Express Report Service (HTTPS) informs the support center of the failure information, preventive maintenance information by E-Mail, modem, or HTTPS. If you want to use this service, contact your sales representative and install NEC ESMPRO Agent before using this service.

You can install it automatically when Windows OS is installed with EXPRESSBUILDER.

For details, see *Express Report Service / Express Report Service (HTTPS) Installation Guide (Windows)* in EXPRESSBUILDER.

1.7 NEC Product Info Collection Utility

NEC Product Info Collection Utility can collect various logs related to the server all at once. You can collect the server information (Product Info) for maintenance by using this utility.

1.7.1 Installation

Follow the steps below to install this utility.

- 1. Log on to Windows as an administrator, and then insert EXPRESSBUILDER DVD into the optical disk drive.
- 2. Run \autorun\dispatcher_x64.exe on the DVD.
- Click Applications from the menu and then click Product Info Collection Utility. Follow the instructions in the dialog boxes until installation is complete. This utility is usually installed to the C:\ezclct folder.

Tips

The installation drive requires a free space of at least 2.5 GB.

1.7.2 Uninstallation

- 1. From Control Panel, select Add/Remove Programs and then Product Info Collection Utility (Vx.x.x).
- 2. Follow the instructions in the dialog boxes until uninstallation is complete.

2. Bundled Software for "PC for Management"

2.1 NEC ESMPRO Manager

NEC ESMPRO Manager remotely controls and monitors the server hardware.

To use these features, install NEC ESMPRO Agent on the server.

For details, see NEC ESMPRO Manager Installation Guide in EXPRESSBUILDER.

Glossary

Term	Description
BIOS Setup Utility (SETUP)	Software for setting BIOS. You can run this software by pressing <f2> key during POST.</f2>
BMC	Baseboard Management Controller (BMC) is a built-in controller that supports the IPMI version 2.0 protocol. BMC can manage the server hardware.
BMC Configuration Utility	Software for setting BIOS and BMC. You can use as Windows application or run this software when pressing <f4> key during POST.</f4>
CPU module	A CPU subsystem logically configured in a CPU/IO module. It includes CPUs and memory.
CPU/IO module	A module that includes CPUs (processors), memory, PCI boards, a cooling fan, hard disk drives and power supply units.
DUMP Switch	A switch that is used for collecting the memory dump if an error occurs. You can specify the destination of the dump by using the OS function.
EXPRESSBUILDER	Standard software for setting up the server easily. This also includes several useful applications and instruction manuals.
EXPRESSSCOPE ENGINE 3	A name of BMC for NEC Express5800 series.
Express Report Service	Software that can report the server failure to the contact center by E-mail or modem. This software is installed with NEC ESMPRO Agent to the server.
Express Report Service (HTTPS)	Software that can report the server failure to the contact center by HTTPS.
ExpressUpdate	A feature for updating BIOS, firmware, driver, and software of the server. This feature is available when NEC ESMPRO Manager cooperates with EXPRESSSCOPE ENGINE 3 and ExpressUpdate Agent.
ExpressUpdate Agent	Software for performing ExpressUpdate. This is installed to the server.
Flash FDD	An optional USB device that can use as a floppy disk drive.
NEC ESMPRO	Standard software for the server management. This consists of several applications for managing or monitoring.
NEC ESMPRO Agent	Software for monitoring the server. This works with NEC ESMPRO Manager and resides as the OS service.
NEC ESMPRO Agent Extension	Software for performing the scheduled operations. This works with NEC ESMPRO Manager.
NEC ESMPRO Manager	Software for managing a number of servers on network.
OEM driver	A Windows driver for the mass storage device.
OS standard installer	An installer that stored in Windows installation disc. Use this installer if you want to install the OS manually.
Offline tools	Software that can read and change SEL, SDR, FRU and other IPMI data. You can start Offline tools when pressing <f4> key during POST.</f4>
PC for Management	A computer for managing the server on network. A general Windows/Linux computer can be used as "PC for Management".
PCI module	An I/O subsystem logically configured in a CPU/IO module. It includes hard disk drives, PCI cards, BMC and 1G/10G LAN.
Product Info Collection Utility	Software for collecting several hardware/software statuses and event logs. You can easily collect the data for the server maintenance by using this software.
Starter Pack	Software package for the server. This software includes the customized drivers for Windows. This must be installed before using Windows on the server.
Windows OS parameter file	A file that saved settings for installing Windows. You can install with the saved settings in this file when installing Windows with EXPRESSBUILDER.

Revision Record

Document Number	Date Issued	Description
30.102.01-102.01	July 2015	Newly created
30.102.01-102.02	October 2015	Added the description about Windows Server 2008 R2
30.103.01-102.02	July 2017	Added the description about Express5800/R310f-E4, R320f-E4, R320f-M4, and Windows Server 2016
30.103.01-102.03	May 2018	Added the description about Windows Server 2012R2 for Express5800/R310f-E4, R320f-E4, R320f-M4 model

[memo]

NEC Express Server

Express5800/R310e-E4, R320e-E4, R320e-M4, R310f-E4, R320f-E4, R320f-M4 Installation Guide (Windows)

May 2018

NEC Corporation 7-1 Shiba 5-Chome, Minato-Ku Tokyo 108-8001, Japan

©NEC Corporation 2018

The contents of this manual may not be copied or altered without the prior written permission of NEC Corporation.