

# **Installation Guide (Windows)**

NEC Express Server Express5800 Series

# Express5800/R120h-1M, R120h-2M EXP807, EXP810, EXP811

Chapter 1 Installing Windows

Chapter 2 Installing Bundled Software

# Manuals

Booklets			
Safety Precautions and	Describes points of caution to ensure the safe use of this server.		
Regulatory Notices	Read these cautions before using this server.		
Getting Started	Describes how to use this server, from unpacking to operations. See		
	this guide first and read the outline of this product.		
The electronic edition has been publis	shed on a website (http://www.nec.com/express/).		
User's Guide			
Chapter 1: General Description	Overviews, names, and functions of the server's parts		
Chapter 2: Preparations	Installation of additional options, connection of peripheral devices,		
	and suitable location for this server		
Chapter 3: Setup	System BIOS configurations and summary of EXPRESSBUILDER		
Chapter 4: Appendix	Specifications and other information		
Installation Guide (Windows)			
Chapter 1: Installing Windows	Installation of Windows and drivers, and precautions for installation		
Chapter 2: Installing the	Installation of NEC ESMPRO, and other bundled software		
Bundled Software			
Maintenance Guide			
Chapter 1: Maintenance	Server maintenance and troubleshooting		
Chapter 2: Useful Features	The details of system BIOS settings, RAID Configuration Utility,		
	Starter Pack, and EXPRESSBUILDER		
Chapter 3: Appendix	Error messages and Windows Event Logs		
Other manuals			
The details of NEC ESMPRO. a	nd other features		

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# **Conventions Used in This Document**

#### Notations used in the text

In addition to safety-related symbols urging caution, three other types of notations are used in this 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, <b>hardware failure, data loss, and other serious malfunctions could occur</b> .
Note	Indicates items that must be confirmed when handling hardware or operating software.
Tips	Indicates information that is helpful to keep in mind when using this server.

### **Optical disk drive**

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

- DVD-ROM drive
- DVD Super MULTI drive

#### Hard disk drive

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

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

# Abbreviations of Operating Systems (Windows)

Windows Operating Systems are referred to as follows.

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

Notations in this document	Official names of Windows	
	Windows Server 2016 Standard	
Windows Server 2016	Windows Server 2016 Datacenter	
	Windows Server 2016 Essentials	
Windows Server 2012 D2	Windows Server 2012 R2 Standard	
Windows Server 2012 R2	Windows Server 2012 R2 Datacenter	

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# NEC Express5800 Series Express5800/R120h-1M, R120h-2M

# **Installing Windows**

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

- Information of Windows Installation
   Describes Service Pack and mass storage controllers which is supported by EXPRESSBUILDER/Starter
   Pack.
- 2. Flow of Windows Installation Describes the flow chart of Windows installation.
- Installing Windows Server 2016
   Describes how to install Windows Server 2016.
- 4. Installing Windows Server 2012 R2 Describes how to install Windows Server 2012 R2.
- 5. Setting up for Maintenance Describes the features that should be set up for maintenance in advance.

# **I**. Information of Windows Installation

This section describes the points of using EXPRESSBUILDER/Starter Pack to install Windows operating system.



### **I.I** Starting EXPRESSBUILDER

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

For details, see Chapter 2 (5. Details of EXPRESSBUILDER) in Maintenance Guide.

#### <u>Usage</u>

Remove a CD/DVD and removable media from the server, restart the server and press <F10> key (EXPRESSBUILDER) during POST.

## **1.2** Supported Windows OS

You can install the following editions of Windows operating system.

EB : II

: Install using Assisted option

: Install using Manual option

	Boot mode		Installation method		
Name of Windo	UEFI	Legacy	EB	OS	
Windows Sonver 2016 *1	Standard	~	N/A	✓	✓
Windows Server 2016	Datacenter	~	N/A	✓	✓
Windows Conver 2012 D2	Standard	~	N/A	✓	✓
windows Server 2012 R2	Datacenter	$\checkmark$	N/A	$\checkmark$	$\checkmark$

✓ : Supported

\*<sup>1</sup>. "Nano Server" is not supported.

# **1.3** Supported Service Pack

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

OS installation media	No Service Pack installation	Service Pack 1 installation
Windows Server 2016	4	N/A
Windows Server 2012 R2	$\checkmark$	N/A

✓ : Supported

### **1.4** Supported Mass Storage Controllers

The table below lists the controllers for this server, supported by EXPRESSBUILDER/Starter Pack.

If a controller not mentioned below is connected, set it up while referring to the instructions supplied with the controller.

	Windows Server 2016	Windows Server 2012 R2		
RAID controller supporting the installation of OS at EXPRESSBUILDER				
Onboard RAID Controller	N/A (*1)	N/A (*1)		
N8103-189 RAID Controller (RAID 0/1)	✓	✓		
N8103-190 RAID Controller (2GB, RAID 0/1/5/6)	✓	✓		
N8103-191 RAID Controller (4GB, RAID 0/1/5/6)	✓	✓		
N8103-192 RAID Controller (RAID 0/1)	√*2	√*2		
N8103-193 RAID Controller (2GB, RAID 0/1/5/6)	√*2	√*2		
N8103-194 RAID Controller (4GB, RAID 0/1/5/6)	√*2	√*2		
N8103-195 RAID Controller (RAID 0/1)	✓	✓		
N8103-201 RAID Controller (2GB, RAID 0/1/5/6)	$\checkmark$	✓		
Other options				
N8103-196 RAID Controller (2GB, RAID 0/1/5/6)	$\checkmark$	✓		
N8103-197 SAS Controller	$\checkmark$	$\checkmark$		
N8190-163 Fibre Channel Controller (1ch)	$\checkmark$	$\checkmark$		
N8190-164 Fibre Channel Controller (2ch)	$\checkmark$	$\checkmark$		
N8190-165 Fibre Channel Controller(1ch)	$\checkmark$	✓		
N8190-166 Fibre Channel Controller(2ch)	✓	✓		
N8190-171 Fibre Channel Controller (1ch)	✓	✓		
N8190-172 Fibre Channel Controller (2ch)	$\checkmark$	$\checkmark$		

✓: Supported

\*1 Starter Pack supports this controller.

Regarding the installation procedures, see "Install with a Manual Option" for each OS.

\*2 Support Express5800/R120h-1M only

# **1.5** Supported Optional LAN board

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

	Windows Server 2016	Windows Server 2012 R2
N8104-171 Quad Port 1000BASE-T LOM Card	$\checkmark$	$\checkmark$
N8104-172 Quad Port 1000BASE-T LOM Card	1	N/A
N8104-173 Dual Port 10GBASE-T LOM Card	1	✓
N8104-174 Dual Port 10GBASE-T LOM Card	1	✓
N8104-175 Dual Port 10GBASE-T LOM Card	1	1
N8104-176 Dual Port 10GBASE SFP+ LOM Card	✓	$\checkmark$
N8104-177 Dual Port 25GBASE SFP+ LOM Card	✓	$\checkmark$
N8104-178 Dual Port 1000BASE-T Adapter	✓	$\checkmark$
N8104-179 Quad Port 1000BASE-T Adapter	✓	✓
N8104-180 Dual Port 1000BASE-T Adapter	✓	N/A
N8104-181 Quad Port 1000BASE-T Adapter	✓	N/A
N8104-182 Dual Port 10GBASE-T Adapter	✓	✓
N8104-183 Dual Port 10GBASE-T Adapter	✓	✓
N8104-184 Dual Port 10GBASE-T Adapter	✓	✓
N8104-185 Dual Port 10GBASE SFP+ Adapter	✓	✓
N8104-186 Dual Port 10GBASE SFP+ Adapter	✓	✓
N8104-187 Dual Port 25GBASE SFP28 Adapter	~	✓
N8104-188 Quad Port 25GBASE QSFP28 Adapter	~	✓

✓: Supported

# 2. Flow of Windows Installation

Read a proper section to install Windows according to the following figure.



# **3.** Installing Windows Server 2016

# **3.1** Precautions of Windows Server 2016 Installation

Read the precautions explained this section before installing.

- EB : Assisted installation
- 0S : Manual installation

BIOS	S settir	ng
EB	OS	Change Boot Mode to UEFI Mode. For details, see <i>Chapter 2 (1. System Utilities)</i> in <i>Maintenance Guide.</i> System Configuration $\rightarrow$ BIOS/Platform Configuration(RBSU) $\rightarrow$ Boot Mode $\rightarrow$ Boot Option $\rightarrow$ UEFI Mode
EB	OS	Select Enabled for X2APIC feature of processor. For details, see Chapter 2 (1. System Utilities) in Maintenance Guide. System Configuration $\rightarrow$ BIOS/Platform Configuration(RBSU) $\rightarrow$ Processor Options $\rightarrow$ Processor X2APIC Support $\rightarrow$ Enabled
EB	OS	Set the time format to the time of your current location. Regarding the details, see <i>Chapter 2 (1. System Utilities)</i> in <i>Maintenance Guide</i> . System Configuration $\rightarrow$ BIOS/Platform Configuration (RBSU) $\rightarrow$ Date and Time $\rightarrow$ Time Format $\rightarrow$ Current Location Time
Hard	lware o	configuration
		The following hardware configurations require special procedures.
ЕВ	OS	<b>Reinstalling to a mirrored volume</b> When you install Windows Server 2016 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.
EB	OS	<b>Peripherals such as RDX/MO</b> Remove an MO device before installing. Some peripherals need to be halted before installation. Refer to the manual provided with the peripherals for how to set a device appropriate to installation.
EB	OS	DAT, LTO, and similar media Do not set media that is unnecessary to installation during setup.
EB	OS	Reinstalling to dynamic disks If the hard disk drive has been upgraded to a dynamic disk, the Windows cannot be reinstalled to it with the existing partitions. Install Windows with Manual option.



C: Pag D: Pag	ing file whose size is smaller than the installed memory size ing file whose size is "installed memory size + 400 MB* " or more
→ The coll inst	e paging file in drive C is used for collecting memory dump, but ection may fail because the size of the paging file is smaller than the called memory size.
Example of	of incorrect setting 2
C: Pag D: Pag E: Pag	ing file whose size is "installed memory size × 0.5" ing file whose size is "installed memory size × 0.5" ing file whose size is 400 MB*
→ The but coll	total paging file size in all drives is "installed memory size + 400 MB* ", collection may fail because only the paging file in drive C is used for ecting memory dump.
Example of	of incorrect setting 3
C: No   D: Pag (in d	paging file exists ing file whose size is "installed memory size + 400 MB* " or more ynamic volume)
→ Pag dur	ing files in a dynamic volume cannot be used for collecting memory np. Thus, collecting memory dump fails.
* This va	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more reaction of the system drive for "Dedicated Dump File".
This vacuum This v	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more other than the system drive for "Dedicated Dump File".
This variable of the regump File.	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more re other than the system drive for "Dedicated Dump File". nistry shown below by using the Registry Editor and specify the name or le: "dedicateddumpfile.sys" in drive D>
This value of the regence of the reg	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more re other than the system drive for "Dedicated Dump File". In the provided system of the registry Editor and specify the name of the system
This va ecify a driv eate the reg mp File. For examp Key: Name:	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more re other than the system drive for "Dedicated Dump File". pistry shown below by using the Registry Editor and specify the name of le: "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile PEG_SZ
* This va Specify a drive Create the reg Dump File. <for example<br="">Key: Name: Type: Data:</for>	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more re other than the system drive for "Dedicated Dump File". pistry shown below by using the Registry Editor and specify the name of le: "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys
* This va Specify a drive Create the reg Dump File. <for example<br="">Key: Name: Type: Data: Note the follow • The second</for>	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more re other than the system drive for "Dedicated Dump File". pistry shown below by using the Registry Editor and specify the name of le: "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys owing when specifying Dedicated Dump File: etting is applied after restarting the system. iy a drive that has free space of "installed memory size + 400 MB (instal
* This va Specify a driv Create the reg Dump File. <for exampl<br="">Key: Name: Type: Data: Note the follow • The se • Specify size +</for>	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more re other than the system drive for "Dedicated Dump File". pistry shown below by using the Registry Editor and specify the name of le: "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys owing when specifying Dedicated Dump File: etting is applied after restarting the system. by a drive that has free space of "installed memory size + 400 MB (instated 1,100 MB when the installed memory size is 4 TB or more)" or more.
* This va Specify a drive Create the reg Dump File. <for example<br="">Key: Name: Type: Data: Note the follow • The set • Specific size + • Dedica</for>	alue is installed memory size +1,100 MB when the installed memory size is 4 TB or more re other than the system drive for "Dedicated Dump File". pistry shown below by using the Registry Editor and specify the name of le: "dedicateddumpfile.sys" in drive D> HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl DedicatedDumpFile REG_SZ D:\dedicateddumpfile.sys evening when specifying Dedicated Dump File: etting is applied after restarting the system. iy a drive that has free space of "installed memory size + 400 MB (instat 1,100 MB when the installed memory size is 4 TB or more)" or more. ated Dump File cannot be placed in dynamic volumes.

System par	tition size				
EB OS	The system partition size can be calculated by using the following formula.				
	Size required to install the OS + paging file size + dump file size + application size				
	Desktop Experience Size required to install the OS Paging file size (recommended) Dump file size Application size Server Core Size required to install the OS	<ul> <li>= 15,200 MB</li> <li>= installed memory size × 1.5</li> <li>= installed memory size + 400 MB (installed memory size is 4 TB or less)</li> <li>= installed memory size + 1,100 MB (installed memory size is exceeding 4 TB)</li> <li>= as required by the application</li> <li>= 10,300 MB</li> </ul>			
	Paging file size (recommended) Dump file size	<ul> <li>= installed memory size × 1.5</li> <li>= installed memory size + 400 MB (installed memory size is 4 TB or less)</li> <li>= installed memory size + 1,100 MB (installed memory size is exceeding 4 TB)</li> </ul>			
	Application size	= as required by the application			
	For example, if the installed memory size is 2 GB (2,048 MB), and application size is partition size is calculated as follows: 15,200 MB + (2,048 MB × 1.5) + 2,048 MB + 400 MB + 100 MB = 20,820 MB				
	The above mentioned partition size is Ensure that the partition size is sufficient	the minimum partition size required for system installation. for system operations.			
	The following partition sizes are recommended.         Desktop Experience       :       32,768 MB (32 GB) or more         Server Core installations       :       32,768 MB (32 GB) or more         *1 GB = 1,024 MB       :       :				
	<ul> <li>The above paging file siz (dump file). The initial siz enough to store dump file Make sure you set a suffi will be a virtual memory sidebug information.</li> <li>Regardless of the sizes of maximum size of the dum size + 1,100 MB when insis</li> <li>When installing other app by the application to the provided of the size</li> </ul>	es are recommended for collecting debug information e of the Windows partition paging file must be large es. cient paging file size. If the paging file is insufficient, there hortage that may result in an inability to collect correct f internal memory and write debug information, the up file is "installed memory size + 400 MB (installed memory stalled memory size is 4 TB or more)". dications or other items, add the amount of space needed partition.			

If the partiti partition siz	on size for installing Windows is smaller than the recommended size, expand the e or add another hard disk drive.
When	installing using Assisted option
Tips	<ul> <li>Windows is installed using the entire disk space of the hard disk drive. The Windows OS creates two partitions at the head of the hard disk drive.</li> <li>EFI System Partition (ESP): 100MB *1</li> <li>Microsoft Reserved Partition (MSR): 128MB *2</li> <li>228 MB of disk space is allotted to the two partitions at the head.</li> </ul>
	Microsoft Reserved Partition (MSR) *2 (128MB)
	EFI System Partition (ESP) *1 (100MB)
	<ul> <li>*1 May be 300MB in size depending on hard disk drive type.</li> <li>*2 MSR is not displayed on <b>Disk Management</b>.</li> </ul>



#### **3.2** Assisted Installation

This section describes how to install Windows Server 2016 with Assisted option.

If using a RAID controller, build the RAID system in advance according to the User's Guide.

Important	<ul> <li>Setup will delete all data of the hard disk drive.</li> <li>Disconnect hard disk drives from the RAID controller that is not to be setup.</li> </ul>
Note	If installing Windows OS to an onboard RAID controller, see 3.3 Manual Installation. Assisted installation is not supported.

#### 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)
- Starter Pack
  - Starter Pack DVD (Optional or downloading from our website)

#### 3.2.3 Installation procedure

Note

Read the precautions in *Chapter 1* (*3.1 Precautions of Windows Server 2016 Installation*) in advance.

- 1. Turn on peripherals (such as a display), and then turn on the server.
- 2. To run EXPRESSBUILDER, press <F10> key during POST.
- 3. The next screen is displayed, click EXPRESS OS INSTALL.

NEC	Express5800/0000-00	<b>S</b>	*	1	?	i	ወ
	EXPRESS	BUILDER					
	World's most advanced se	rver configuration software		den des			
	EXPRESS OS INSTALL	PERFORM MAINTENANCE					

Choose Assisted Install of Install Method.
 Specify the following if necessary, and then click the ">" icon of the lower right of the screen.



When choosing **DVD-ROM Media** or **USB** at **Install Source**, click ">" icon after setting the media.

NEC	Express5800/0000-00		*	۲		ወ
	Operating System Installation	on				
	Installing a new operating system to this server					
	RAID Configuration Recommended Settings		•			
	Controller PCI SCOO - HPE Smart Array P810i-a SR Gen10 Controller Disk*		•			
	LUN 1 - 300G Instal Source DVD-ROM Media		•			
	Artempi Firmane Update Skip Update		•			
<	instal Method: Assisted Install		•			>

#### RAID Configuration

Choose Keep Current Setting after configuring a RAID array by SSA or System Utilities when using RAID controller.

- Controller
   Choose the controller of installation destination.
- Disk
   Choose the disk of installation destination.
- Install Source

Choose an OS installation source from the following types.

DVD-ROM Media	DVD-ROM
File on USB drive	USB flash drive
SMB/CIFS (Windows Share)	Network sharing folder
An anonymous FTP server	FTP (this option is not available)

Each media supports the following file format.

File on USB drive	Flat, ISO
SMB/CIFS (Windows Share)	Flat, ISO

Flat: a standard folder/file structure

ISO: single ISO or UDF file

- Attempt Firmware Update
   Choose **Skip Update**. The other options are not available.
- Install Method
   Choose Assisted Install.

5. Choose an OS source media depending on the media type of **Install Source** chosen at step 4.

DVD-ROM Media	Automatically detects on OS installation media. If the detection fails, return to step 4 and retry.
File on USB drive	Choose OS installation file on USB flash drive connected.
SMB/CIFS (Windows Share)	Set the network settings of network sharing that includes OS installation file, and then choose OS installation file after connecting the network sharing.   Server Name/IP Address  Share Name  Domain Name  Network Share User  Network Share Password

6. On the following screen, specify settings for the OS installation. Set your time zone to **Greenwich Mean Time (GMT)**~.

NEC	Express5800/0000-00	0 x 🗮 ? i	ወ
Choose the OS Family Microsoft Windows Server	2016 Standard xé4 Edition		•
OS Language English (US)	OS Keyboard English (US)	Time Zone  (GMT-1200) International Date Line West	•
Computer Name srv2109c1b09	Organization Name 12/32	Owner Name	0/32
Optional Password	0/32	firm Password	
<			>
	Note Optio	nal Password can be used	alpha
	"!") is	included, an error message	will ap

7. Confirm the settings and modify them as needed.



8. When the following screen is displayed, the setting is complete. Click **LAUNCH NOW** to start installation.

NEC Express58	00/0000-00	Q	* 📍 ?	i U
	Job Configur	ration Viewer		
1 jobs are waiting to be processed	LAUNCH NOW	ADD ANOTHER JOB		
Express OS Install				DELETE

9. When copying is complete, the system restarts automatically.

	NEC	Express5800/0000-00				0		ወ	
Job	Viewer								
	Server Status								
	O Server Booted								
	Job Status								
	CEXPRESS OS Install			Copying ( 2 / 27 ) 75%					

If a choosing installation OS screen appears, the inserted OS media is different from the setting of step 6. Retry the setting from the beginning.

#### 10. Confirm the license terms.

Click I accept the license terms if you accept this license, and then click Next.



The following screen is displayed, and Windows installation automatically starts.

Installing Windows Status Copyring Windows Re: (0%)	
Getting fire randy for installation locating features locating optimes Finalming up	

11. The following screen appears depending on the setting of step 6.

#### **Desktop Experience**

Read the terms of License Agreement. Click Accept.

IMPORTANT NOTICE (followed by LICENSE )	ERMS)		
Diagnostic and Usage Information. Microso your installation, upgrade, and user experienco purposes, the information may be associated (Security, Basic, Enhanced, and Full), and uses antimalware and diagnostic and usage inform compatibility and (iii) identify quality issues in	t automatically collects this inf , and the quality and security or vith your organization. Window he "Enhanced" setting by defa ation technologies; (ii) underst. the use and performance of the	formation over the internet, and use of Microsoft products and services. ( ws Server 2016 has four (4) informat ault. This level includes information and device quality, and application he operating system and applicatio	s it to help improve Consistent with these ion collection setting required to: (i) run ou usage and ns.
Choice and Control: Administrators can chang diagnostic and usage information, see (aka.m:	e the level of information coll /winserverdata) and the Windo	ection through <b>Settings</b> . For more i ows Server Privacy Statement (aka.n	nformation on ns/winserverprivacy).
MICROSOFT SOFTWARE LICENSE TERMS			
MICROSOFT WINDOWS SERVER 2016 XXX	0000000		
These license terms are an agreement betwee read them. They apply to the software named any Microsoft:	Microsoft Corporation (or ba above, which includes the med	sed on where you live, one of its aff lia on which you received it, if any. 1	iliates) and you. Plea The terms also apply

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



Enter the password and press <Enter> key.



#### Server Core

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



The next two screens do not appear when the password is set at step 6. Type a new password and press <Enter> key.



Choose **OK** and press <Enter> key after the following message is displayed.

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

Windows Server 2016 starts.



- After signing in, installation automatically resumes. After installation is complete, the system automatically restarts.
- 13. See Chapter 1 (3.4 Standard Program Package Installation) to install SPP.
- 14. Install drivers and specify detailed settings according to Chapter 1 (3.5 Setup of Device Drivers).
- 15. Confirm if Windows is activated according to Chapter 1 (3.6 License Authentication).
- 16. See Chapter 1 (3.7 Setup of Windows Server 2016 NIC Teaming (LBFO)) to setup a team as needed.
- 17. Install the applications as needed according to Chapter 1 (3.8 Installing Applications).
- 18. Set the other OS settings according to Chapter 1 (5. Setting up for Maintenance).
- 19. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.
- From time settings, check whether the current time and time zone have been set correctly.
   Also, from RBSU Date and Time, check whether the Time Format has been set to Local Time and Time Zone to Unspecified Time Zone.
   If the Time Zone is incorrect, see 5.6 Operation Troubleshooting under Chapter 1 (5. Troubleshooting)

in Maintenance Guide and set to the correct value.

The Windows installation with Assisted option is now complete.

#### **3.3** Manual Installation

This section describes how to install Windows Server 2016 with Manual option.

If using a RAID controller, build the RAID system in advance according to the User's Guide.

Important Depending on the setup, all data in the hard disk drive will be deleted.

#### 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)
- Starter Pack
  - Starter Pack DVD (Optional or downloading from our website)

Note

If using the onboard RAID controller and the internal optical disk drive, the driver is loaded from a removable media device. Copy and prepare the following files onto a removable media in advance. <DVD>:\software\001\drivers\sw\_raid1\_driver

#### 3.3.3 Installation procedure

Note

**Read the precautions in Chapter 1** (3.1 Precautions of Windows Server 2016 Installation) in advance.

1. Turn on peripherals (such as a display), and then turn on the server.

Important If using the onboard RAID controller, insert the OS installation media and go to Step 9.

- 2. To run EXPRESSBUILDER, press <F10> key during POST.
- 3. The next screen is displayed, click EXPRESS OS INSTALL.

NEC	Express5800/0000-00	Q	*	1		
	EXPRES	SBUILDER				
	World's most advanced	server configuration softwa	e	likela		
	EXPRESS OS INSTALL	PERFORM MAINTENA	NCE			

#### 4. Choose Manual of Install Method.

Specify the following settings after setting OS installation media if necessary, and then click the ">" icon of the lower right of the screen.

NEC	Express5800/0000-00	Ø	*	Ħ	?	i	ወ
	Operating System	Installatior					
	RAID Configuration Recommended Settings Cantroller <sup>1</sup> PCI SCOO - HPE Smart Array PBto)- a SR Gen10 Contro Disk <sup>2</sup> LUN 1 - 300G Instal Gauce DVD-ROM Media Array Enzyma Linkto	ller	• • •				
<	Skip Update Install Method. Menual		•		]		

- RAID Configuration
   Choose Keep Current Setting after configuring a RAID array by SSA or System Utilities when using RAID controller.
- Controller
   Choose the controller of installation destination.
- Disk Choose the disk of installation destination.
- Install Source
   Choose DVD-ROM Media. The other options are available for Assisted option.

Tips

**USB**, **SMB/CIFS** (Windows Share), and **FTP** can only be selected in Assisted option installation.

- Attempt Firmware Update
   Choose **Skip Update**. The other options are not available.
- Install Method
   Choose Manual.

5. OS installation media is automatically detected. If the detection fails, return to step 4 and retry.



6. The next settings are not needed. These settings are for **Assisted** option. Click ">" icon of lower right of the screen.

	press5800/0000-00	0	*	F	?	i	ወ
Choose the OS Family Microsoft Windows Server 2016 Stand	ard xó4 Edition						Ŧ
OS Language English (US)	OS Keyboard English (US)	Time Zor	e 2.00) Inter	national E	late Line \	Vest	•
Computer Name srv2109c1b09	Organization Name	0/32	Name				0/32
Optional Password	Con	firm Password					
<							>

7. Confirm installation settings.

NEC	Express5800	/0000-00	Q	*	F	?	i	
	Current	onfirm Installat	ion Settings	ation				
OS Fami Windo	ly NS	Operating System Microsoft Windows Server 2	Install Method: D12 R2 Standard - assist					
STV162 OS Lang Englist	5dBdaO uage a (US)	OS Keyboard English (US)	Time Zone (GMT-12:00) Int	ernationa	I Date Line	: West		
DVD (	Configuration							
<								>

8. When the following screen is displayed, the setting is complete. Click **LAUNCH NOW** to start installation.

NEC Express58	00/0000-00	Ş	<b>* 1</b>	?	i U
	Job Configur	ation Viewer			
	One Step Before Processi	ng All Jobs Automatically			
	LAUNCH NOW	ADD ANOTHER JOB			
1 jobs are waiting to be processed					
Express OS Install					DELETE

When copying is complete, the system restarts automatically.

	NEC	Express5800/0000-00			0		ወ
doL	Viewer						
	Server Status						
	O Server Booted						
	Job Status						
	C Express OS Instal	n.	Copying ( 2 / 27 ) 7	5%			

#### 9. The system starts from the OS installation media.

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

Press the <Enter> key to start from the media. The boot sequence proceeds and the message "Windows is Loading files..." appears.

<ul> <li>system cannot be started from the OS installation media, it can be started by following the procedure below.</li> <li>(1) Press the <f11> key during POST to start the Boot Menu.</f11></li> <li>(2) In <b>One Time Boot Menu</b>, select the optical disk drive where the OS installation media was inserted.</li> </ul>
<ul> <li>following the procedure below.</li> <li>(1) Press the <f11> key during POST to start the Boot Menu.</f11></li> <li>(2) In <b>One Time Boot Menu</b>, select the optical disk drive where the OS installation media was inserted.</li> </ul>
<ul> <li>(1) Press the <f11> key during POST to start the Boot Menu.</f11></li> <li>(2) In <b>One Time Boot Menu</b>, select the optical disk drive where the OS installation media was inserted.</li> </ul>
(2) In <b>One Time Boot Menu</b> , select the optical disk drive where the OS installation media was inserted.
installation media was inserted.
• If the Windows Setup screen (the screen in the next step) does not
display, the <enter> key was not properly pressed. Turn the system</enter>
power on again, and then start again.
10. Click Next.

Windows Setup		
	Windows Server* 2	2016
La Timo and	nguage to install: English (United States)	<b>.</b>
<u> </u>	or input method: US	
Ent	er your language and other preferences and clic	ck "Next" to continue.
© 2016 Microsoft Corpo	ation. All rights reserved.	Next

11. Click Install now.

🕌 Windows Setup		
, Wir	ndows Server 2016	
[	Install now	
<u>R</u> epair your computer		
© 2016 Microsoft Corporation. All rights reserved.		

If the following message is displayed: Go to Step 12.

If the following message is not displayed: Go to Step 14.

Loading the driver			
The necessary media drive drivers include DVD, USB, drive with the driver stored,	er for the PC in and hard disk driv please insert it.	use could not b vers. If you have	e found. Types of media a DC, DVD, or USB flash
be removed for this step.			
	Browse (B)	OK	Cancel

12. After connecting the removable media where the onboard RAID controller driver was copied, specify the path and click **OK**.

<Removable media>:\sw\_raid1\_driver

13. Select the following driver from the displayed list of drivers, and click Next.

HPE Smart Array S100i SR Gen10 SW RAID

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

l i	🕞 🛃 Windows Setup				
	Activate Windows				
	If this is the first time you're installing Wir you need to enter a valid Windows produ email you received after buying a digital o Windows came in.	dows on this PC (or you're installing a different edition), tt key. Your product key should be in the confirmation opy of Windows or on a label inside the box that			
	The product key looks like this: XXXX-XX	XXXXXX-XXXXX-XXXXXX-XXXXXX			
	If you're reinstalling Windows, select I don automatically activated later.	't have a product key. Your copy of Windows will be			
	[]				
	Privacy statement	] don't have a product key N	est		
A					
ellecting information	2 Installing Windows				
	Tips	If you are using	Backup DVD-ROM	I, this screen do	es not app

15. Choose an operating system you want to install and click Next.

Windows Server 2016 Standard	add	9/16/2016
Windows Server 2016 Standard (Desktop Experience) Windows Server 2016 Datacenter Windows Server 2016 Datacenter (Desktop Experience)	x64 x64 x64	9/16/2016 9/16/2016 9/16/2016
Description: This option (accommended) reduces management and servi to run most server roles and applications. It does not include server locally or encode) with Windows PowedShell or other Server Installation Options. <sup>4</sup>	cing by installing or a GUI, but you can tools. For more det	nly what is needed fully manage the ails see 'Windows

Options are displayed depending on the installation media you are using.

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
  - Windows Server 2016 Standard (Desktop Experience) or Windows
     Server 2016 Datacenter (Desktop Experience)
    - $\rightarrow$  Described as "Desktop Experience" by this manual

16. Read the license terms carefully.

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

Minimum Process and interfere terms	🚱 🎪 Windows Setup	
T I group the locate 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, upprade, and user experience, and the quality and security of Microsoft products and services. Consistent with these purposes, the information oracy be associated with your organization. Windows Server 2016 has four (4) information collection settings (Security, Basic, Enhanced, and Full), and uses the "Enhanced" setting by default. This level includes information required to: (0) run our animativare and diagnostic and usage information technologies (10) understand device quality, and application usage and compatibility and (10) identify quality issues in the use and performance of the operating system and applications.	
	□ I <sub>Accept</sub> the losses terms	Next

17. Select Custom: Install Windows only (advanced).

G	🔏 Windows Setup	
	Which type of installation do you want?	
	Upgrade: Install Windows and keep files, settings, and applications The first, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already running on the computer.	
	Custom: Install Windows only (advanced) The fire, settings, and applications and knowledge with this option. If you want to make charge to positioner and divers, table computer using the installation disc. We recommend backing up your first bid ve you continue.	
	Help me decide	
Collecting information	Installing Windows	

18. The "Select Windows installation location" screen is displayed.

If the driver was loaded in steps 12 and 13, or if the onboard RAID controller is not in use, proceed to step 21.

If you select Load driver here, the following screen will be displayed.

Loading the driver		
To install the device driver of the drive, insert file and click <b>OK</b> .	the installation med	dia that contains the driver
Note: The installation media is a CD, DVD, or	USB flash drive.	
Browse (B)	ОК	Cancel

- 19. After setting the Starter Pack DVD in the UBS-DVD drive, assign a file directory, and click **OK**. <Starter Pack DVD>:\software\001\drivers\sw\_raid1\_driver
- 20. Select the following driver from the displayed list of drivers, and click Next.

HPE Smart Array S100i SR Gen10 SW RAID

21. Click New

Where do you want to install Windows?         Name       Total size       free space       Type         Drive 1 Mallocated Space       64.0 M8       66.0 M8       Miner         Drive 2 Partion 1: VD       51.10 M8       46.0 M8       Miner         Drive 2 Partion 1: VD       51.10 M8       46.0 M8       Miner         Drive 2 Partion 1: VD       51.10 M8       46.0 M8       Miner         Drive 1 Multicoated Space       27.3 1.0 B       27.9 1.0 B       Miner         I partie       Dipelet       Image: Commet       Image: Commet       Image: Commet         I partie       Dipelet       Image: Commet       Image: Commet       Image: Commet       Image: Commet         I partie       Dipelet       Image: Commet       Image: Commet       Image: Commet       Image: Commet       Image: Commet         Dipelet       Image: Commet       Image: Commet
Where do you want to install Windows?         Name       Total size       Free space       Type         One 2 Particion 1: VID       S110 MM       640 MM       Primary         One 2 Particion 1: VID       S010 MM       500 MM       Pointer 1         One 2 Particion 1: VID       S010 MM       640 MM       Primary         One 2 Particion 1: VID       S010 MM       500 MM       Focorey         Drive 3 Unallocated Space       2731 GB       2731 GB       2731 GB         Particion       One 2 Particion       Pointer       Image: New Year         One 2 Particion       Particion       Pointer       Pointer         Particion       Particion       Particion       Pointer       Pointer
Where do you want to install Windows?         Name       Total size         fore: Unslocated Space       640 MB         Onive: Unslocated Space       640 MB         Onive: Databased       300 MB         Onive: Databased       300 MB         Onive: Databased       300 MB         Space       2731 GB         Onive: Distribution: Precovery       300 MB         Space       2731 GB         Space       2731 GB         Space       300 MB
Where do you want to install Windows?         Name       Total size       Free space       Type         Drive 1 Unallocated Space       64.0 MB       64.0 MB       Free space       Type         Drive 1 Unallocated Space       51.0 MB       64.0 MB       Free space       Type         Drive 1 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 1 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 1 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 1 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 3 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 3 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 3 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 3 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 3 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 3 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 3 Unallocated Space       279.1 GB       279.1 GB       Type         Drive 3 Unallocated Space       279.1 GB       279.1 GB       Type
Name       Total size       Free space       Type         Image: Space       64.0 M8       64.0 M8       64.0 M8         Image: Drive 1 Unallocated Space       64.0 M8       64.0 M8       Primary         Image: Drive 2 Particion 1: VID       511.0 M8       418.0 M8       Primary         Image: Drive 2 Particion 1: VID       50.0 M8       50.0 M8       Recovery         Image: Drive 3 Unallocated Space       279.1 G8       279.1 G8       279.1 G8         Image: Drive 3 Unallocated Space       279.1 G8       279.1 G8       Primary         Image: Drive 3 Unallocated Space       279.1 G8       279.1 G8       Primary         Image: Drive 3 Unallocated Space       279.1 G8       279.1 G8       Primary         Image: Drive 3 Unallocated Space       279.1 G8       279.1 G8       Primary         Image: Drive 3 Unallocated Space       279.1 G8       Primary       Primary         Image: Drive 3 Unallocated Space       279.1 G8       Primary       Primary         Image: Drive 3 Unallocated Space       Primary       Primary       Primary         Image: Drive 3 Unallocated Space       Primary       Primary       Primary         Image: Drive 3 Unallocated Space       Primary       Primary       Primary         Image:
Where do you want to install Windows?         Name       Total size       Free space       Type         Onive 1 Unallocated Space       640 MB       660 MB         Onive 2 Partition 1: VID       5110 MB       4160 MB       Primary         Onive 3 Partition 1: Recovery       3000 MB       560 MB       Recovery         Onive 3 Partition 1: Recovery       3000 MB       560 MB       Recovery         Onive 3 Partition 1: Recovery       3000 MB       560 MB       Recovery         Onive 3 Database       2791 GB       2791 GB       Year         I pad driver       Optice       Commat       I have         Optice 1 Load driver       Stated       Year       New
Where do you want to install Windows?       Name     Total size       Free space     Type       Drive 1 Unallocated Space     64.0 MB       Drive 2 Partition 1: Processory     300.0 MB       Drive 3 Partition 1: Recovery     300.0 MB       Drive 3 Unallocated Space     2791.68
Where do you want to install Windows?           Name         Total size         Free space         Type           Image: Drive 1 Unallocated Space         54.0 MB         64.0 MB         64.0 MB           Image: Drive 2 Pantion 1: VID         511.0 MB         416.0 MB         Primary           Image: Drive 2 Pantion 1: Recovery         300.0 MB         56.0 MB         Recovery
Where do you want to install Windows?           Name         Total size         Free space         Type           Image: Drive 1 Unallocated Space         64.0 MB         64.0 MB         64.0 MB           Image: Drive 2 Partition 1: VID         511.0 MB         416.0 MB         Primary
Where do you want to install Windows?           Name         Total size         Free space         Type           Orive 1 Unallocated Space         64.0 MB         64.0 MB
Where do you want to install Windows?
Where do you want to install Windows?

22. Specify the partition size in the text box, and the click **Apply**. If the partition is already created, proceed to step 24

Drive 1 Undilected Space     Solution     Drive 2 Partition 1: WD     Solution     Drive 3 Partition 1: Recovery     Drive 3 Undilected Space     Z791 GB     Z791 GB	Name		Total size	Free space Type	
Sure 2 Particia I. Recovery     200 MB     Sol MB     Recovery     200 MB     Sol MB     Recovery     Dive 3 Unallocated Space     2791 GB     2	Drive 1 Una	llocated Space	64.0 MB	64.0 MB	
Onive 2 Unablocated Space     279 1 GB       4y Betrich     ∑ Deleta       4y Betrich     ∑ Deleta       ♦ Load driver     ∑ Egland       See     [285001 ±]       MB     Agely       Cancel	Drive 2 Part	ition 1: Recovery	300.0 MB	56.0 MB Recovery	
49 Bdriesh ∑ Edicte	Drive 3 Una	llocated Space	279.1 GB	279.1 GB	
● Load driver ⇒ Egtend Size [253801 ÷ MB Agely Cancel	🛠 Refresh	Delete	Format	* New	
	Load driver	Estend	Size: 285801	MB Agply Car	ncel
Next				Ne	a

When the following window appears, click **OK**.

I	To ensure that all Windows featu additional partitions for system f	ires work correctly, Windows might cre iles.
		ОК Са

# Tips

- When creating a partition, the OS creates the following partitions at top of the hard disk drive.
  - Recovery Partition
  - EFI System Partition (ESP)
- Microsoft Reserved Partition (MSR)

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



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

🚱 🔬 Windows Setup				
Where do you want to install Wir	dows?			
Name Drive 3 Partition 1: Recovery Prive 3 Partition 2: Recovery	Total size 300.0 MB 450.0 MB	Free space Type 56.0 MB Recovery 433.0 MB Recovery	^	
Drive 3 Partition 3 Drive 3 Partition 4	100.0 MB 16.0 MB 278.5 GB	95.0 MB System 16.0 MB MSR (Reserved) 278.5 GB Primary	*	
& Belresh ➤ Delete ⊕ Load driver ⊇ Egtend	✓ Format	₩ Ngw	ba	

When the following message appears, Windows installation starts automatically.



The server will automatically restart after Windows Server 2016 is installed. You will proceed to Windows setup after restart. 25. Set user settings according to operating system chosen in step 15.

## **Desktop Experience**

Type a password and click **Finish**.

Type a password for th	ne built-in administrator a	iccount that you can	use to sign in to this	computer.	
User name	Administrator				
Password	1				
Reenter password					

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



Type the password and press <Enter>.



Windows Server 2016 starts.



# Server Core

The password is needed to change. Choose **OK** and press <Enter> key.



Enter a new password and press <Enter> key.



Choose OK and press <Enter> key after the following message is displayed.



Windows Server 2016 starts.



26. See Chapter 1 (3.4 Standard Program Package Installation) to install SPP.

- 27. Install drivers and specify detailed settings according to Chapter 1 (3.5 Setup of Device Drivers).
- 28. Confirm if Windows is activated according to Chapter 1 (3.6 License Authentication).
- 29. See Chapter 1 (3.7 Setup of Windows Server 2016 NIC Teaming (LBFO)) to setup a team as needed.
- 30. Install the applications as needed according to Chapter 1 (3.8 Installing the Applications).
- 31. Referring to Chapter 1 (3.9 Disabling a virtual install disk), set up depending on your needs.
- 32. Set the other OS settings according to Chapter 1 (5. Setting up for Maintenance).
- 33. From time settings, check whether the current time and time zone have been set correctly.
  Also, from RBSU Date and Time, check whether the Time Format has been set to Local Time and Time Zone to Unspecified Time Zone.
  If the Time Zone is incorrect, see 5.6 Operation Troubleshooting under Chapter 1 (5. Troubleshooting) in Maintenance Guide and set to the correct value.

The Windows installation with Manual option is now complete.

# **3.4** Standard Program Package Installation

Standard Program Package (SPP) contains drivers customized for this server. Make sure to install SPP before running the server system.

ImportantAfter attaching the internal option, application of Standard Program Package<br/>may be required. For details, see Chapter 1 (3.5 Setup of Device Drivers).TipsStandard Program Package is already applied in the pre-installed environment. If<br/>you are not changing hardware configuration, reapplication is not necessary.

# 3.4.1 Installing Standard Program Package on Desktop Experience

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Set the Starter Pack DVD to the drive.
- 3. Run the start\_up.bat under the root folder on DVD.
- 4. Click Integrated Installation on the menu.

Starter Pack		NEC
	Instruction Manuals	
Ĵ	Versions	
F	Integrated Installation	
	Applications	
	Exit	
		Version S8.10-001.01(001)

5. Choose Standard Program Package on the following screen, and then click Install.

Starter Pack			
Starter	Pack		NEC
	Integrated Installation		
	Install the following software. – Install Standard Program Package prior to ins – Uninstall the application prior to reinstalling t	stalling the application. the application.	
	Standard Program Package		
$\bigcirc$	Applications     Instant ServerAgentService	Rev2.0	Not installed
	Express Report Service	Rev3.5E	Not installed
	Express Report Service (HTTPS)	Rev3.8	Not installed
( 53	RAID Report Service	Rev1.00 (3459)	Not installed
	Product Info Collection Utility	Rev3.0.5	Not installed
	RESTful Interface Tool	Rev2.0.0.0	Not installed
[k]			Install

SPP installation is now complete.

# 3.4.2 Installing Standard Program Package on Server Core

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Set the Starter Pack DVD to the drive.
- 3. From the command prompt, type the following command. In the example below, the optical disk drive is the D drive.
  - cd /d D: software\001\win\seamless
    C:\Users\administrator>cd /d D: software\001\win\seamless
- 4. Type the following command, and then press <Enter> key.

```
instcmd.vbs spp /s
D:\software\001\win\seamless >instcmd.vbs spp /s
```

Wait until installation completes (about 1 to 15 minutes).

SPP installation is now complete.

# **3.5** Setup of Device Drivers

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

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

# 3.5.1 Installing the LAN drivers

# (1) LAN drivers

The drivers are installed by Standard Program Package.

However, if N8104-176/186 is used, "Standard Program Package" has to be applied again for LAN driver installation.

If the OS is setup by either "Assisted" or "Manual" option, "Standard Program Package" has to be applied twice to install the driver of N8104-176/186.

Important	Wake On LAN (WOL) is supported by onboard network adapters and					
	N8104-171/172/173/174/175/176/177 only.					
	Wake On LAN is available after installing the LAN driver.					
	For Wake On LAN of N8104-172/175/176, when using Wake On LAN see					
	Chapter 1(3.5.2 Setting up LAN drivers - (2) Setting up Wake on LAN with					
	N8104-172/175/176).					
	BIOS settings, check Maintenance Guide.					
Note	<ul> <li>To change the LAN driver settings, sign in to the system from a local console using an administrator's account. Remotely changing the settings by using the operating system's remote desktop feature is not supported.</li> </ul>					
	Choose the Internet Protocol (TCP/IP) check box when specifying an IP					

# (2) Optional LAN board

This server supports the following optional LAN boards. Optional LAN boards: N8104-171/172/173/174/175/176/177/178/179/180/181/182/183/184/185/186/187/188

address.

If you install the LAN boards after installing Standard Program Package, install Standard Program Package again according to *Chapter 1 (3.4 Standard Program Package Installation)*. In any other case when N8104-176/186 is used, "Standard Program Package" has to be applied twice.

## (3) Network adapter name

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

#### Network adapters for the standard configuration

HPE Ethernet 1Gb 4-port 331i Adapter #xx(\*1)

## If connecting with an optional LAN board:

- [N8104-171] HPE Ethernet 1Gb 4-port 331FLR Adapter #xx(\*1)
- [N8104-172] HP Ethernet 1Gb 4-port 366FLR Adapter #xx(\*1)
- [N8104-173] HPE FlexFabric 10Gb 2-port 533FLR-T Adapter #xx(\*1)
- [N8104-174] HPE Ethernet 10Gb 2-port 522FLR-T Converged Network Adapter #xx(\*1)
- [N8104-175] HPE Ethernet 10Gb 2-port 562FLR-T Adapter #xx(\*1)
- [N8104-176] Port1: HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter #xx(\*1)

Port2: HPE Ethernet 10Gb 562SFP+ Adapter #xx(\*1)

[N8104-177]	HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter #xx(*1)
[N8104-178]	HPE Ethernet 1Gb 2-port 332T Adapter #xx(*1)
[N8104-179]	HPE Ethernet 1Gb 4-port 331T Adapter #xx(*1)
[N8104-180]	HP Ethernet 1Gb 2-port 361T Adapter #xx(*1)
[N8104-181]	HP Ethernet 1Gb 4-port 366T Adapter #xx(*1)
[N8104-182]	HPE Ethernet 10Gb 2-port 530T Adapter #xx(*1)
[N8104-183]	HPE Ethernet 10Gb 2-port 521T Adapter #xx(*1)
[N8104-184]	HPE Ethernet 10Gb 2-port 562T Adapter #xx(*1)
[N8104-185]	HPE Ethernet 10Gb 2-port 530SFP+ Adapter #xx(*1)
[N8104-186]	Port1 : HPE Ethernet 10Gb 2-port 562SFP+ Adapter #xx(*1)
	Port2 : HPE Ethernet 10Gb 562SFP+ Adapter #xx(*1)
[N8104-187]	HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter #xx(*1)
[N8104-188]	HPE Ethernet 4x25Gb 1-port 620QSFP28 Adapter #xx(*1)

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

Tips	The ID for N8104-173/174/177/182/183/185/187/188 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.
Tips	The network adaptor name displayed in the device manager may be different from the one listed above. In this case, the correct network adaptor name can be displayed by following the procedure below.
	<ol> <li>Start Device Manager.</li> <li>Open Network Adaptor, right click on the relevant adaptor, and select Delete. Do not check the Delete the driver software of this device checkbox.</li> <li>Select Scan hardware change from Control.</li> </ol>

# 3.5.2 Setting up LAN drivers

# (1) Setting link speed

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

Tips

If you are using a network adaptor for N8104-185/187/188, the network adaptor settings can be set to "10 Gbps Full Duplex" or "25 Gbps Full Duplex", and the connected switching hub settings can be set to "Auto Negotiation".

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

The link speed setting is now complete.

#### (2) Setting up Wake on LAN with N8104-172/175/176

When using N8104-172/175/176 with the server, follow the procedure below to set it.

- 1. Open the **Device Manager**.
- Expand Network Adapters, and then double-click the name of the network adapter you want to configure. The properties of the network adapter will be displayed.
- 3. Open Advanced tab, click Enable PME to show Value.
- 4. Change the value to **Enabled** by the down-arrow button.
- 5. Click **OK**, and then restart the system.

Setup is now complete.

# 3.5.3 Using Graphics Accelerator

The graphics accelerator driver for standard configurations of the server is installed from Standard Program Package.

# 3.5.4 Using SAS Controller (N8103-197)

The drivers are installed by Standard Program Package.

If you install the SAS controller (N8103-197) after installing Standard Program Package, install Standard Program Package again according to *Chapter 1 (3.4 Standard Program Package Installation)*.

# 3.5.5 Using RAID Controller (N8103-195/196/201)

The drivers are installed by Standard Program Package.

If you install the RAID controller (N8103-195/196/201) after installing Standard Program Package, install Standard Program Package again according to *Chapter 1 (3.4 Standard Program Package Installation)*.

# 3.5.6 Using Fibre Channel Controller (N8190-163/164/165/166/171/172)

The drivers are installed by Standard Program Package.

If you install the Fibre Channel controller (N8190-163/164/165/166/171/172) after installing Standard Program Package, install Standard Program Package again according to *Chapter 1 (3.4 Standard Program Package Installation )*.

# **3.6** License Authentication

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

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



# 3.6.1 Desktop Experience

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

Recycle	Bin		
	Programs and Features		
	Power Options		
	Event Viewer		
	System		F.
	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		
-	ج م ف	-	10:46 AM 12/7/2016

2. Check Windows license authentication.

When "Windows is activated." is displayed, you do not need to perform this procedure. The authentication is complete.

When "Connect to the internet to activate Windows." is displayed, go to step 3.

	See also Security and Maintenance	Computer description: Workgroup: WORKGROUP Windows activation Connect to the Internet to activate Windows. Read the Micr Product ID: 00000-00000-00000-00000	osoft Software License Terms SActivate Windows
م 🖿	é 📄 🚥		∧ 🔽 🔩 11:43 AM

4.

# 3. Click Activate Windows.

See a	W	ndows activation Connect to the Internet to activ	ate Windows. Read the Microsoft So	ftware License Terms
Secur	rity and Maintenance	Product ID: 00000-00000-00000	-00000	Activate Windows
erfo	rm license authe	entication.		
Settings				- 🗆 X
© Ηα	ome	Window	WS	
Find a	a setting	, Edition	Windows Server 2016 Sta	ndard
Jpdate	& security	Activation	Unable to reach Window Learn more	s activation servers
Зw	indows Update	Product Ke	y XXXXX-XXXXX-XXXXX-XX	XXX-XXXXX
• w	indows Defender	Activat	e Windows now	
C) Re	coven	To install a	new product key, select chang	ge product key.
<ul> <li>Ac</li> </ul>	ctivation	Chan	ge product key	
Ĥ Fo	r developers	If you're ha try and fix f	ving problems with activation the problem.	, select Troubleshoot to
		C Troub	leshoot	

When the server connects to the Internet, click **Change product key**. Complete license authentication process according to the message.

When the server does not connect to the Internet, go to step 5.

- 5. Perform the license authentication by phone. Go to the appropriate step according to OS installation media you are using.
  - -- Backup DVD-ROM: Go to the next step.
  - -- Windows Server 2016 DVD-ROM

- Product key is <u>not entered</u>:

- Product key is <u>already entered</u>: Go to Step 9.
  - Go to the next step.
- 6. Right-click the lower left of the screen, and click **Run** from the menu displayed.

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

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



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



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



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

Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.         Open:       slui 4         Image: This task will be created with administrative privileges.         OK       Cancel         Browse	💷 Run		×
Open: slui 4   This task will be created with administrative privileges.  OK Cancel Browse	٨	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.	
This task will be created with administrative privileges.           OK         Cancel         Browse	<u>O</u> pen:	slui 4 🗸 🗸	
OK Cancel <u>B</u> rowse		This task will be created with administrative privileges.	
OK Cancel <u>B</u> rowse			_
		OK Cancel <u>B</u> rowse	
			1
💶 o 🗀 🥖 🔚 📨			

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





€	Call a	nd pro	ovide y	/our ir	nstalla	tion ID	)				
	Call one of these numbers. The automated phone system will ask for your installation ID (IID). Some charges may be applied by local operators for toll-free numbers in certain countries or regions.										
	Toll free: not available										
	<b>Toll:</b> (971) (4) 391 7000										
	Installation ID:										
	0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000	0000000		
	Enter confirmation ID Cancel										

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

Enter your confirmation ID The automated phone system will tell you what to enter.									
_	A	В	c		E	F	G	н	
						Activate W	indows	Cancel	]

The authentication is now complete.

## 3.6.2 Server Core

1. Confirm if your license is activated.

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

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

When license authentication is required, go to the next step. When your license is already authenticated, you can skip the next and the subsequent steps.

2. Change the product key.

#### Using Backup DVD-ROM:

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

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

#### Using Windows Server 2016 DVD-ROM:

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

3. Perform license authentication.

#### The server connects to the Internet:

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

C:\Users\administrator>slmgr -ato

This completes authentication.

#### The server does not connect to the Internet:

Use telephone for license authentication.

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

C:\Users\administrator>slmgr -dti

Acquire the installation ID required for license activation.

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

Call Microsoft Licensing Center and tell them your Install ID.

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

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

The authentication is now complete.

# **3.7** Setup of Windows Server 2016 NIC Teaming (LBFO)

Set up the network adapter teaming feature as shown below.

## (1) Launching the NIC teaming setup tool

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

The NIC teaming setup tool will launch.

Tips

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

#### (2) Creating a team

Create a team by using the NIC teaming setup tool.

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

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

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

# Teaming mode

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

#### Load balancing mode

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

#### Standby adapter

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

Setting all adapters to active mode is also possible.

#### Primary team interface

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

#### (3) Notes and restrictions

- NIC teaming on a guest OS is not supported.
- Teaming of virtual NICs on the host OS is not supported in the Hyper-V environment.
- When STP (Spanning Tree Protocol) is enabled on network switch ports to which network adapters of the team are connected, network communications may be disrupted. Disable STP, or configure "PortFast" or "EdgePort" to the ports.
  - \* About setting the network switch of the connection destination, see the manual of the network switch.
- All NICs in the team must be connected to the same subnet.
- Teaming of different speed NICs is not supported.
- Teaming of different vendor's NICs is not supported.
- When teaming is configured in a Network Load Balancing (NLB) environment, you should select multicast mode on the NLB cluster.

Refer to the following website for the latest information.

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

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

# **3.8** Installing Applications

Some applications included in Starter Pack can be installed easily by performing the procedures described below. When installing these applications individually, see *Chapter 2 (Installing Bundled Software)*. This feature is **only available on Desktop Experience**.

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Insert the Starter Pack DVD into the optical disk drive.
- 3. Run the start\_up.bat under the root folder on DVD.
- 4. Click Integrated Installation on the menu.

Starter Pack		NEC
	Instruction Manuals	
0	Versions	
Ŧ	Integrated Installation	
	Applications	
×	Exit	
		Version S8.10-001.01(001)

5. On the following screen, choose the check boxes corresponding to the applications you want to install, and then click **Install**. The chosen applications are automatically installed.

Starter Pack				
Starter	Pack		N	EC
	Integrated Installation			
	Install the following software. – Install Standard Program Package prior to ins – Uninstall the application prior to reinstalling t	stalling the application. he application.		
()	OStandard Program Package © Applications			
	✓ NEC ESMPRO ServerAgentService	Rev2.0	Not installed	
	Express Report Service (HTTPS)	Rev3.8	Not installed	
	RAD Report Service	Rev1.00 (3459)	Not installed	
Ľ.	Product Info Collection Utility	Rev3.0.5	Not installed	
	RESTful Interface Tool	Rev2.0.0.0	Not installed	
Bal			Install	

Note	Applications available for installation are chosen by default.
	• If your system environment does not satisfy the prerequisite for an application
	you cannot install it. For details, see the on-screen information and Chapter 2
	Installing Bundled Software.
	• To collect product information using a device information collection utility,
	RESTful interface tool needs to be installed. If it is not installed, some logs
	required for the maintenance may not be gathered.

6. When a message indicating restart appears, click **OK** to restart the server.

7. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.

Now installation of applications is complete.

# **3.9** Disabling a virtual install disk

There may be a case that a virtual install disk (a drive named "VID") exists on the OS of Windows.

You can disable a virtual install disk with the steps bellow.

Tips

In the Virtual Install Disk, the drivers used during the installation of Windows OS are stored. When Virtual Install Disk is installed by the manual option, it is automatically enabled and automatically install the necessary drivers.

- 1. Press the F10 key during POST to start the EXPRESSBUILDER.
- 2. After restarting from EXPRESSBUILDER, click **Perform Maintenance**.
- 3. Click BIOS/Platform Configuration.
- Go to BIOS/Platform Configuration (RBSU) System Options USB Options Virtual Install Disk and set to Disabled.
- 5. Click the BIOS/Platform Configuration (RBSU) on the left pane and click Update.
- 6. After restarting, VID will be disabled.

With this, the procedure is completed.

# **4.** Installing Windows Server 2012 R2

# 4.1 Precautions of Windows Server 2012 R2 Installation

Read the precautions explained this section before installing.

- **EB** : Assisted installation
- 0S : Manual installation

BIOS	settir	ng
EB	OS	Change Boot Mode to UEFI Mode. For details, see <i>Chapter 2 (1. System Utilities)</i> in <i>Maintenance Guide</i> . System Configuration $\rightarrow$ BIOS/Platform Configuration(RBSU) $\rightarrow$ Boot Mode $\rightarrow$ Boot Option $\rightarrow$ Boot Mode [UEFI Mode]
EB	OS	Select Enabled for X2APIC feature of processor. For details, see <i>Chapter 2 (1. System Utilities)</i> in <i>Maintenance Guide</i> . System Configuration $\rightarrow$ BIOS/Platform Configuration(RBSU) $\rightarrow$ Processor Options $\rightarrow$ Processor X2APIC Support $\rightarrow$ Enabled
EB	OS	Set the time format to the time of your current location. Regarding the details, see <i>Chapter 2 (1. System Utilities)</i> in <i>Maintenance Guide</i> . System Configuration $\rightarrow$ BIOS/Platform Configuration (RBSU) $\rightarrow$ Date and Time $\rightarrow$ Time Format $\rightarrow$ Current Location Time
Hard	ware o	configuration
		The following hardware configurations require special procedures.
EB	OS	<b>Reinstalling to a mirrored volume</b> When you install Windows Server 2012 R2 in an environment with a mirrored volume created using Windows, disable mirroring before installing the operating system and enable it again after the installation. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.
EB	OS	<b>Peripherals such as RDX/MO</b> Remove an MO device before installing. Some peripherals need to be halted before installation. Refer to the manual provided with the peripherals for how to set a device appropriate to installation.
EB	OS	DAT, LTO, and similar media Do not set media that is unnecessary to installation during setup.
EB	OS	Reinstalling to dynamic disks If the hard disk drive has been upgraded to a dynamic disk, the Windows cannot be reinstalled to it with the existing partitions. Install Windows with Manual option.



<ul> <li>→ The paging file in drive C is used for collecting memory dump, collection may fail because the size of the paging file is smaller than installed memory size.</li> <li>Example of incorrect setting 2</li> <li>C: Paging file whose size is "installed memory size × 0.5"</li> <li>D: Paging file whose size is "installed memory size × 0.5"</li> </ul>
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"
C: Paging file whose size is "installed memory size $ imes$ 0.5" D: Paging file whose size is "installed memory size $ imes$ 0.5"
E: Paging file whose size is 400 MB
→ The total paging file size in all drives is "installed memory size + 400 M but collection may fail because only the paging file in drive C is used collecting memory dump.
Example of incorrect setting 3
→ Paging files in a dynamic volume cannot be used for collecting mem dump. Thus, collecting memory dump fails.
ify a drive other than the system drive for "Dedicated Dump File".
cify a drive other than the system drive for "Dedicated Dump File". ate the registry shown below by using the Registry Editor and specify the n np File.
<b>ify a drive other than the system drive for "Dedicated Dump File".</b> te the registry shown below by using the Registry Editor and specify the n p File. For example: "dedicateddumpfile.sys" in drive D>
cify a drive other than the system drive for "Dedicated Dump File".         ate the registry shown below by using the Registry Editor and specify the n p File.         For example: "dedicateddumpfile.sys" in drive D>         Key:       HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl
cify a drive other than the system drive for "Dedicated Dump File".         te the registry shown below by using the Registry Editor and specify the n         p File.         For example: "dedicateddumpfile.sys" in drive D>         Key:       HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl         Name:       DedicatedDumpFile
cify a drive other than the system drive for "Dedicated Dump File". ate the registry shown below by using the Registry Editor and specify the n np File. For example: "dedicateddumpfile.sys" in drive D> Key: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Control\CrashControl Name: DedicatedDumpFile Type: REG_SZ

System par	tition size					
EBOS	The system partition size can be calculated by using the following formula.					
	Size required to install the OS + paging file size + dump file size + application size					
	Server with a GUI					
	Size required to install the OS = 9.200MB					
	Paging file size (recommended) = installed memory size × 1.5					
	Dump file size = installed memory size + 400MB					
	Application size = as required by the application					
	Server Core installations					
	Size required to install the OS = 6,400MB					
	Paging file size (recommended) = installed memory size × 1.5					
	Dump file size = installed memory size + 400MB					
	Application size = as required by the application					
	For example, if the installed memory size is 1 GB (1,024 MB), application size is 100MB, and Server with a GUL is selected, the partition size is calculated as follows:					
	with a OOT is selected, the partition size is calculated as follows.					
	9,200MB + (1,024MB × 1.5) + 1,024MB + 400MB + 100MB					
	= 12,260MB					
	The above mentioned partition size is the minimum partition size required for system installation. Ensure that the partition size is sufficient for system operations. The following partition sizes are recommended.					
	Server with a GUI : 32.768MB (32GB) or more					
	Sonvor Core installations : 22 769MB (220B) or more					
	*1 GB = 1 024 MB					
	<ul> <li>Note</li> <li>The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the Windows partition paging file must be large enough to store dump files. Make sure you set a sufficient paging file size. If the paging file is insufficient, there will be a virtual memory shortage that may result in an inability to collect correct debug information.</li> <li>Regardless of the sizes of internal memory and write debug information, the maximum size of the dump file is "size of internal memory + 400 MB".</li> <li>When installing other applications or other items, add the amount of space needed by the application to the partition.</li> </ul>					
	If the partition size for installing Windows is smaller than the recommended size, expand the partition size or add another hard disk drive.					





# 4.2 Assisted Installation

This section describes how to install Windows Server 2012 R2 with Assisted option.

This feature automatically detects RAID controllers connected to the server. You need to finish the hardware installation of the server according to "*User's Guide*" in advance.

Important	<ul> <li>Setup will delete all data of the hard disk drive.</li> <li>Disconnect hard disk drives from the RAID Controller that is not to be setup.</li> </ul>
Note	If installing Windows OS to an onboard RAID controller, see <i>4.3 Manual Installation.</i> Assisted installation is not supported.

# 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)
- Starter Pack
  - Starter Pack DVD (Optional or downloading from our website )

# 4.2.3 Installation procedure

Note

Read the precautions in *Chapter 1 (4.1 Precautions of Windows* Server 2012 R2 Installation) in advance.

- 1. Turn on peripherals (such as a display), and then turn on the server.
- 2. To run EXPRESSBUILDER, press <F10> key during POST.
- 3. The next screen is displayed, click EXPRESS OS INSTALL.

NEC	Express5800/0000-00	Q	*	1	?	ወ
	EXPRESS	BUILDER				
	World's most advanced se	rver configuration software		in da		
	EXPRESS OS INSTALL	PERFORM MAINTENANCE				

4. Choose Assisted Install of Install Method.

Specify the following settings if necessary, and then click the ">" icon of the lower right of the screen.



When choosing **DVD-ROM Media** or **USB** at **Install Source**, click ">" icon after setting the media.

NEC	Express5800/0000-00	8	*		?	ወ
	Operating System Installa	atior	ì			
	Installing a new operating system to this set	rver		i)		
	RAID Configuration					
	Recommended Settings Controller*		•			
	PCI 5C:00 - HPE Smart Array P816i-a SR Gen10 Controller		•			
	Disk*					
	LUN 1 - 300G		•			
	Instal Source DVD-ROM Media		•			
	Attempt Firmware Update					
	Skip Update		•			
C	Angle Stat Restau		)			

## RAID Configuration

Choose **Keep Current Setting** after configuring a RAID array by SSA or System Utilities when using RAID controller.

- Controller
   Choose the controller of installation destination.
- Disk Choose the disk of installation destination.
- Install Source

Choose an OS installation source from the following types.

DVD-ROM Media	DVD-ROM
File on USB drive	USB flash drive
SMB/CIFS (Windows Share)	Network sharing folder
An anonymous FTP server	FTP (this option is not available)

Each media supports the following file format.

File on USB drive	Flat, ISO
SMB/CIFS (Windows Share)	Flat, ISO

Flat: a standard folder/file structure

ISO: single ISO or UDF file

- Attempt Firmware Update
   Choose Skip Update. The other options are not available.
- Install Method
   Choose Assisted Install.

5. Choose an OS source media depending on the media type of **Install Source** chosen at step 4.

DVD-ROM Media	Automatically detects on OS installation media. If the detection fails, return to step 4 and retry.			
File on USB drive	Choose OS installation file on USB flash drive connected.			
SMB/CIFS (Windows Share)	<ul> <li>Set the network settings of network sharing that includes OS installation file, and then choose OS installation file after connecting the network sharing.</li> <li>Server Name/IP Address</li> <li>Share Name</li> <li>Domain Name</li> <li>Network Share User</li> <li>Network Share Password</li> </ul>			

6. On the following screen, specify settings for the OS installation. Set your time zone to **Greenwich Mean Time (GMT)~**.

NEC	Express5800/0000-00	<b>9 ☆ 〒</b> ?	i U
Choose the OS Family Microsoft Windows Server 2	1016 Standard xò4 Edition		•
OS Language	OS Keyboard	Time Zone	
English (US)	<ul> <li>English (US)</li> </ul>	<ul> <li>(GMT-1200) International Date Line West</li> </ul>	•
Computer Name srv2109c1b09	Organization Name	Owner Name	
	12 / 32	0 / 32	0 / 32
Optional Password	Confi	rm Password	
	0/32		
<			>
	Note Optio	nal Password can be us	ed alpha
	"!") is	included, an error messa	ne will a

7. Confirm the settings and modify them as needed.



8. When the following screen is displayed, the setting is complete. Click **LAUNCH NOW** to start installation.

NEC Express580	0/0000-00	C	*	?	i U
	Job Configur	ation Viewer			
	One Step Before Processin	ng All Jobs Automatically			
	LAUNCH NOW	ADD ANOTHER JOB			
1 jobs are waiting to be processed					
Express OS Install					DELETE

9. When copying is complete, the system restarts automatically.

	NEC	Express5800/0000-00		0		ወ	
Job	Viewer						
	Server Status						
	O Server Booted						
	Job Status						
	CEXPRESS OS Instal	È	Copying ( 2 / 27 ) 75%				

10. Confirm the content of the License Terms.

If you agree, check I Agree, and then click Next.

The following message is displayed, and Windows installation automatically starts.

The system automatically restarts after installing Windows Server 2012 R2. Windows setup resumes after the system restarts.

11. Click **Skip** without entering the product key.

Note

If you perform setup using our backup DVD-ROM, the product key input screen is displayed. Click **Skip** here without entering anything. After installation is complete, license authentication is done in *Chapter 1 (4.6 License Authentication)*.

12. The following screen appears depending on the setting of step 6.

## Server with a GUI

Type a password and click Finish.

Type a password for t	the built-in administrator account	that you can use to sign in to this	s computer.
User name	Administrator		
Password	1	_	
Reenter password			

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



Enter the password and press <Enter>.

	Central Administrator
¢	Windows Server 2012 R2

Windows Server 2012 R2 starts.

		Server	Manager			- 0	×
€∋- Serv	er Manager • Dashboar	d		• @   <b>r</b>	Manage Tools	View 1	łelp
Dashboard	WELCOME TO SERVER MA	NAGER					
Local Server	0	Configu	ire this local se	rver			1
	QUICK START	2 Add r	oles and features				
	WHAT'S NEW	3 Add o 4 Create	ther servers to ma e a server group	nage			
	LEARN MORE					Hide	
	ROLES AND SERVER GROU Roles: 0   Server groups: 1	PS Servers total: 1					
	Local Server	1	All Servers	1			
	Manageability     Events     Services     Performance		Manageability     Events     Services     Performance				
	BPA results		8PA results				
	<b>1</b>					12: 11/2	60 AM 9/2013

Server Core Installations

Click OK.

Administrator The user's password must be changed before signing in.
Windows Server 2012 R2
Type the new
--------------
--------------



Click OK.

Administrator Your password has been changed.
Windows Server 2012 R2

Windows Server 2012 R2 starts.



Tips

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

- 13. After signing in, installation automatically resumes. After installation is complete, the system automatically restarts.
- 14. See Chapter 1 (4.4 Standard Program Package Installation) to install SPP.

- 15. Install drivers and specify detailed settings according to Chapter 1 (4.5 Setup of Device Drivers).
- 16. Confirm if Windows is activated according to Chapter 1 (4.6 License Authentication).
- 17. See Chapter 1 (4.7 Setup of Windows Server 2012 R2 NIC Teaming (LBFO)) to setup a team as needed.
- 18. Install the applications as needed according to Chapter 1 (4.8 Installing Applications).
- 19. Set the other OS settings according to Chapter 1 (5. Setting up for Maintenance).
- 20. See *Chapter 2 Installing Bundled Software* to install the bundled software or confirm that the software is appropriate to your operating environment.
- 21. From time settings, check whether the current time and time zone have been set correctly. Also, from RBSU Date and Time, check whether the Time Format has been set to Local Time and Time Zone to Unspecified Time Zone. If the Time Zone is incorrect, see 5.6 Operation Troubleshooting under Chapter 1 (5. Troubleshooting) in Maintenance Guide and set to the correct value.

The Windows installation with Assisted option is now complete.

## **4.3** Manual Installation

This section describes how to install Windows Server 2012 R2 with Manual option.

If using a RAID controller, build the RAID system in advance according to the User's Guide.

Important Setup will delete all data of the hard disk drive.

## 4.3.1 Installation 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)
- Starter Pack
  - Starter Pack DVD (Optional or downloading from our website)

Note

If using the onboard RAID controller and the internal optical disk drive, the driver is loaded from a removable media device. Copy and prepare the following files onto a removable media in advance. <DVD>:\software\001\drivers\sw\_raid1\_driver

### 4.3.3 Installation procedure

Note

Read the precautions in *Chapter 1 (4.1 Precautions of Windows Server 2012 R2 Installation)* in advance.

1. Turn on peripherals (such as a display), and then turn on the server.

Important If using the onboard RAID controller, insert the OS installation media and go to Step 9.

- 2. To run EXPRESSBUILDER, press <F10> key during POST.
- 3. The next screen is displayed, click EXPRESS OS INSTALL.

NEC	Express5800/0000-00	Q	*	Ħ	?	i	
	EXPRES	SBUILDER					
	World's most advanced s	erver configuration software					
	EXPRESS OS INSTALL	PERFORM MAINTENANCE					

#### 4. Choose Manual of Install Method.

Specify the following settings after setting OS installation media if necessary, and then click the ">" icon of the lower right of the screen.

NEC	Express5800/0000-00	Q	*	F	?	i	ባ
	Operating Syste	m Installation	ו				
	RAD Configuration Recommended Settings Controller <sup>1</sup> PCI 5C00 - NPE Smart Array PB10I-a SR Gent0 Ct Disk <sup>1</sup> LUN 1 - S00G Intel Source Disp-ROM Media	ntroller	• • •				
<	Skip Update Istal Method Menual		•		)		

- RAID Configuration
   Choose Keep Current Setting after configuring a RAID array by SSA or System Utilities when using RAID controller.
- Controller Choose the controller of installation destination.
- Disk
   Choose the disk of installation destination.
- Install Source
   Choose DVD-ROM Media. The other options are available for Assisted option.
- Attempt Firmware Update
   Choose Skip Update. The other options are not available.
- Install Method
   Choose Manual.

5. OS installation media is automatically detected. If the detection fails, return to step 4 and retry.



6. The next settings are not needed. These settings are for **Assisted** option. Click ">" icon of lower right of the screen.

	NEC	Express5800/00	000-00			Ø	*	1	?	i	ወ	
Mic	rosoft Windows Server 2	1016 Standard x64 Edition									•	
OS I Eng	Jlish (US)	Ţ	OS Keyboard English (US)		•	Time Zone	00) Interr	ational D	ate Line 1	Nest	•	
Com	puter Name 2109c1b09	12 / 32	Organization Name		0/32	Owner N	lame				0/3	2
Op	tional Password			Confirm Password	d							
			0/32									
<											>	>

7. Confirm installation settings.

NEC	Express5800/0000	0-00	<b>©</b>	*	Ħ	?	i	ወ
	Confi Current setting	rm Installation S	ettings after confirma	ition				
OS Fan Winds OS Hos srv10:	nily ows stname 23d8da0	Operating System Microsoft Windows Server 2012 R2 Standar	Install Method: d : assist					
OS Lan Englis	iguage :h (US)	OS Keyboard English (US)	Time Zone (GMT-12:00) Inte	rnational	Date Line	West		
DVD	Configuration							
<								>

8. When the following screen is displayed, the setting is complete. Click **LAUNCH NOW** to start installation.

	press5800/0000-00	©	* 📌 ?	i U
	Job Configurat	tion Viewer		
	One Step Before Processing	All Jobs Automatically		
	LAUNCH NOW	ADD ANOTHER JOB		
1 jobs are waiting to be processed				
Express OS Install				DELETE

When copying is complete, the system restarts automatically

	NEC	Express5800/0000-00			0		ወ	
Job Vi	ewer							
	Server Status							
	O Server Booted							
	Job Status							
	CEXPRESS OS Instal	ň.	Copying ( 2 / 27 )	75%				

9. The system starts from the OS installation media.

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

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

Note	• If "Press any key" is not displayed in the upper part of the screen, and the system cannot be started from the OS installation media, it can be started by following the procedure below.
	(1) Press the <f11> key during POST to start the Boot Menu.</f11>
	(2) In <b>One Time Boot Menu</b> , select the optical disk drive where the OS installation media was inserted.
	<ul> <li>If "Windows is loading files" message does not appear, <enter> key was not pressed correctly. Reboot and retry.</enter></li> </ul>

10. Click Next.

( 	Windows S	etup		
	Window	s Server 201	2R2	
	Language to install: English (U	nited States)	<b>•</b>	
<u>T</u> ime a	nd currency format: English (U	nited States)		
<u>K</u> eyboa	rd or input method: US		•	
E	nter your language and other p	references and click "Nex	" to continue.	
© 2013 Microsoft Cor	poration. All rights reserved.			Next

#### 11. Click Install Now.

If the following message is displayed: Go to Step 12.

If the following message is not displayed: Go to Step 14.

Loading the driver									
The necessary media driver for the PC in use could not be found. Types of media drivers include DVD, USB, and hard disk drivers. If you have a DC, DVD, or USB flash drive with the driver stored, please insert it.									
Note: If the Windows installation media is stored in the DVD drive or the USB drive, it can be removed for this step.									
Browse (B) OK Cancel									

12. After connecting the removable media where the onboard RAID controller driver was copied, specify the path and click **OK**.

<Removable media>:\sw\_raid1\_driver

13. Select the above driver from the displayed list of drivers, and click Next.

HPE Smart Array S100i SR Gen10 SW RAID

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

	Windows Satup      Enter the product key to activate Windows      It should be on the back of the base that Windows      Windows.      The product by looks like this: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	the second			
	<u>Privacy statement</u>	Net			
1 Collecting information	2 Installing Windows				
	Tips	If you are using Back	up DVD-ROM, thi	s screen does not a	appear.

 Choose an operating system you want to install, and click Next. Options are displayed depending on the installation media you are using.



- 16. Read the license terms carefully.
  - If you agree, check I accept the license terms and click Next.

C	🖌 🔏 Windows Setup	
	License terms	
	MICROSOFT SOFTWARE LICENSE TERMS	^
	MICROSOFT WINDOWS SERVER 2012 R2 STANDARD	
	These license terms are an agreement between you and:	
	· the server manufacturer that distributes the software with the server; or	
	· the software installer that distributes the software with the server.	
	Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft:	
	· updates,	•
		Next
1 Collecting information 2	Installing Windows	

17. Select Custom: Install Windows only (advanced).

	🖉 Windows Setup	
	Which type of installation do you want? Upgrade: Install Windows and keep files; settings, and applications The files; settings, and applications are moved to Windows with this option. This option is only available when a supported vension of Windows a detaily running on the computer.	
	Custom: Install Windows only (advanced) The flag, stating, and applications and is more to Windows with this option. If you want to the flag, stating, and applications are strong or the statistic or the statist	
	<u>H</u> ôp me decide	
1 Collecting information 2	Installing Windows	

18. The "Select Windows installation location" screen is displayed.

If the driver was loaded in steps 12 and 13, or if the onboard RAID controller is not in use, proceed to step 21.

If you select Load driver here, the following screen will be displayed.

Loading the driver				
To install the device driver of the drive, insert the installation media that contains the driver file and click <b>OK</b> .				
Note: The installation media is a CD, DVD, or USB flash drive.				
	Browse (B)	ОК	Cancel	

19. After setting the Starter Pack DVD in the UBS-DVD drive, assign a file directory, and click OK.

<Starter Pack DVD>:\software\001\drivers\sw\_raid1\_driver

20. Select the following driver from the displayed list of drivers, and click Next.

HPE Smart Array S100i SR Gen10 SW RAID

21. Click New.



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

Name		Total size	Free space Type
Drive 1	Unallocated Space	64.0 MB	64.0 MB
Drive 2	Unallocated Space	279.4 GB	279.4 GB
Load driver	a Estend	Size: 286102	MB Apply

When the following window appears, click **OK**.

Windows Setup	
To ensure that all Windows features w additional partitions for system files.	vork correctly, Windows might create
	OK Cancel
Tips	When creating a partition, the OS creates the following partitions at top of the hard
	disk drive.
	<ul> <li>Recovery Partition</li> </ul>
	<ul> <li>EFI System Partition (ESP)</li> </ul>
	<ul> <li>Microsoft Reserved Partition (MSR)</li> </ul>

23. Select the partition created in step 21, and then click Format.

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



When the following message appears, Windows installation starts automatically.



The server will automatically restart after Windows Server 2012 R2 is installed. You will proceed to Windows setup after restart.

25. Set user settings according to operating system chosen in Step 15.

|--|

Type a password and click **Finish**.

Type a password for t	he built-in administrator account	that you can use to sign in to	this computer.	
User name				
Password	1			
Reenter password				

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



Type the password and press <Enter>.



Windows Server 2012 R2 starts.



Server Core Installations

Click OK.

	Administrator The user's password must be changed before signing in. OX Cancel
🕂 Wir	ndows Server 2012 R2

Windows Server 2012 R2 starts.

015	Administrator: C:\Windows\system32\cmd.exe	 ×
C:\Users\Administra	ator>	^
		=
		~

Tips

Refer to the following Website for more details. Configure and Manage Server Core Installations http://technet.microsoft.com/us-en/library/ij574091.aspx 26. See Chapter 1 (4.4 Standard Program Package Installation) to install SPP.

- 27. Install drivers and specify detailed settings according to Chapter 1 (4.5 Setup of Device Drivers).
- 28. Confirm if Windows is activated according to Chapter 1 (4.6 License Authentication).
- 29. See Chapter 1 (4.7 Setup of Windows Server 2012 R2 NIC Teaming (LBFO)) to setup a team as needed.
- 30. Install the applications as needed according to Chapter 1 (4.8 Installing the Applications).
- 31. Referring to Chapter 1 (4.9 Disabling a virtual install disk), set up depending on your needs.
- 32. Set the other OS settings according to Chapter 1 (5. Setting up for Maintenance).
- 33. From time settings, check whether the current time and time zone have been set correctly. Also, from RBSU Date and Time, check whether the Time Format has been set to Local Time and Time Zone to Unspecified Time Zone.
  If the Time Zone is incorrect, see 5.6 Operation Troubleshooting under Chapter 1 (5. Troubleshooting) in Maintenance Guide and set to the correct value.

The Windows installation with Manual option is now complete.

## 4.4 Standard Program Package Installation

Standard Program Package (SPP) contains drivers customized for this server. Make sure to install SPP before running the server system.

## 4.4.1 Installing Standard Program Package on Desktop Experience

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Set the Starter Pack DVD to the drive.
- 3. Run the start\_up.bat under the root folder on DVD.
- 4. Click Integrated Installation on the menu.

Starter Pack			NEC
		Instruction Manuals	
	0	Versions	
	F	Integrated Installation	
		Applications	
	<b>F</b>	Exit	
			Version S8.10-001.01(001)

5. Choose Standard Program Package on the following screen, and then click Install.

	Starter Pa	аск		
Starter	Pack			NEC
	Integrated Installation			
	Install the following software. - Install Standard Program Package prior to - Uninstall the application prior to reinstalli	installing the app ng the application	plication.	
	Standard Program Package			
	NEC ESMPRO ServerAgentService	Rev2.0	Not installed	
	Express Report Service	Rev3.5E	Not installed	
( cm	Express Report Service (HTTPS)	Rev3.8	Not installed	
L L	Microsoft .NET Framework Version 4.5.2		Not installed	
	RAID Report Service	Rev1.00 (3459)	Not installed	
	Product Info Collection Utility	Rev3.0.5	Not installed	
	RESTful Interface Tool	Rev2.0.0.0	Not installed	
K			Ins	tall

SPP installation is now complete.

## 4.4.2 Installing Standard Program Package on Server Core

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Set the Starter Pack DVD to the drive.
- 3. From the command prompt, type the following command. In the example below, the optical disk drive is the D drive.
  - cd /d D: software\001\win\seamless
    C:\Users\administrator>cd /d D: software\001\win\seamless
- 4. Type the following command, and then press <Enter> key.

instcmd.vbs spp /s
D:\software\001\win\seamless >instcmd.vbs spp /s

Wait until installation completes (about 1 to 15 minutes).

SPP installation is now complete.

## **4.5** Setup of Device Drivers

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

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

## 4.5.1 Installing the LAN drivers

### (1) LAN drivers

The drivers are installed by Standard Program Package.

However, if N8104-176/186 is used, "Standard Program Package" has to be applied again for LAN driver installation.

If the OS is setup by either "Assisted" or "Manual" option, "Standard Program Package" has to be applied twice to install the driver of N8104-176/186.

Important	Wake On LAN (WOL) is supported by onboard network adapters and N8104-171/173/174/175/176 /177 only. Wake On LAN is available after installing the LAN driver. For Wake On LAN of N8104-175/176, see <i>Chapter 1 (4.5.2 Setting up LAN drivers - (2) Setting up Wake on LAN with N8104-175/176)</i> . BIOS settings, check Maintenance Guide.
Note	<ul> <li>To change the LAN driver settings, sign in to the system from a local console using an administrator's account. Remotely changing the settings by using the operating system's remote desktop feature is not supported.</li> <li>Choose the Internet Protocol (TCP/IP) check box when specifying an IP address.</li> </ul>

### (2) Optional LAN board

This server supports the following optional LAN boards. Optional LAN boards: 171/173/174/175/176/177/178/179/182/183/184/185/186/187/188

If you install the LAN boards after installing Standard Program Package, install Standard Program Package again according to *Chapter 1 (4.4 Standard Program Package Installation)*. In any other case when N8104-176/186 is used, "Standard Program Package" has to be applied twice.

#### (3) Network adapter name

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

#### Network adapters for the standard configuration

HPE Ethernet 1Gb 4-port 331i Adapter #xx(\*1)

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

[N8104-171]	HPE Ethernet 1Gb 4-port 331FLR Adapter #xx(*1)
[N8104-173]	HPE FlexFabric 10Gb 2-port 533FLR-T Adapter #xx(*1)
[N8104-174]	HPE Ethernet 10Gb 2-port 522FLR-T Converged Network Adapter #xx(*1)
[N8104-175]	HPE Ethernet 10Gb 2-port 562FLR-T Adapter #xx(*1)
[N8104-176]	Port1 : HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter #xx(*1)
	Port2 : HPE Ethernet 10Gb 562SFP+ Adapter #xx(*1)
[N8104-177]	HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter #xx(*1)
[N8104-178]	HPE Ethernet 1Gb 2-port 332T Adapter #xx(*1)
[N8104-179]	HPE Ethernet 1Gb 4-port 331T Adapter #xx(*1)
[N8104-182]	HPE Ethernet 10Gb 2-port 530T Adapter #xx(*1)
[N8104-183]	HPE Ethernet 10Gb 2-port 521T Adapter #xx(*1)
[N8104-184]	HPE Ethernet 10Gb 2-port 562T Adapter #xx(*1)
[N8104-185]	HPE Ethernet 10Gb 2-port 530SFP+ Adapter #xx(*1)
[N8104-186]	Port1 : HPE Ethernet 10Gb 2-port 562SFP+ Adapter #xx(*1)
	Port2 : HPE Ethernet 10Gb 562SFP+ Adapter #xx(*1)
[N8104-187]	HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter #xx(*1)
[N8104-188]	HPE Ethernet 4x25Gb 1-port 620QSFP28 Adapter #xx(*1)

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

Tips

The ID for N8104-173/174/177/182/183/185/187/188 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

## 4.5.2 Setting up LAN drivers

#### (1) Setting link speed

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

Tips

If you are using a network adaptor for N8104-185/187/188, the network adaptor settings can be set to "10 Gbps Full Duplex" or "25 Gbps Full Duplex", and the connected switching hub settings can be set to "Auto Negotiation".

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

The link speed setting is now complete.

## (2) Setting up Wake on LAN with N8104-175/176

When using N8104-175/176 with the server, follow the procedure below to set it.

- 1. Open the Device Manager.
- 2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to configure. The properties of the network adapter will be displayed.
- 3. Open Advanced tab, click Enable PME to show Value.
- 4. Change the value to **Enabled** by the down-arrow button.
- 5. Click **OK**, and then restart the system.

Setup is now complete.

## 4.5.3 Using Graphics Accelerator

The graphics accelerator driver for standard configurations of the server is installed from Standard Program Package.

#### 4.5.4 Using SAS controller (N8103-197)

The drivers are installed by Standard Program Package.

If you install the SAS controller (N8103-197) after installing Standard Program Package, install Standard Program Package again according to *Chapter 1 (4.4 Standard Program Package Installation)*.

## 4.5.5 Using RAID Controller (N8103-195/196/201)

The drivers are installed by Standard Program Package.

If you install the RAID controller (N8103-195/196/201) after installing Standard Program Package, install Standard Program Package again according to Chapter 1 (4.4 Standard Program Package Installation).

## 4.5.6 Using Fibre Channel Controller (N8190-163/164/165/166/171/172)

The drivers are installed by Standard Program Package.

If you install the Fibre Channel controller (N8190-163/164/165/166/171/172) after installing Standard Program Package, install Standard Program Package again according to *Chapter 1 (4.4 Standard Program Package Installation)*.

## **4.6** License Authentication

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

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

Connect to the Internet to perform the authentication procedure.

Or, use the telephone to perform the authentication procedure.

## (1) Server with a GUI

1. Click Settings on the Charms bar.



2. Click Server info.



- 3. Check Windows license authentication.
  - If "Windows is activated" is displayed: You do not need to perform this procedure.
  - □ If "Windows is not activated" is displayed:
    - When the server is connected to the Internet: Go to step 4.
    - When the server is not connected to the Internet: Go to step 5.

1		Sy	stem		_ □	x
0	💿 🔹 🕆 🛃 🕨 Control Pan	el 🔸 System and Security 🕨 Sy	rstem v	🖒 Search Contro	ol Panel	P
	Control Panel Home	View basic information	about your compute	r		?
8	Device Manager	Windows edition				
8	Remote settings	Windows Server 2012 R2 X	XXXXXXXXX			
8	Advanced system settings	© 2013 Microsoft Corpora reserved.	tion. All rights	Nindows Sei	rver <sup>2</sup> 012	R2
		System				
		Processor:	Intel(R) Core(TM) i3 CPU	540 @ 3.07GHz 3.4	06 GHz	
		Installed memory (RAM):	512 MB (512 MB usable)			
		System type:	64-bit Operating System, a	x64-based processor		
		Pen and Touch:	No Pen or Touch Input is	available for this Display	у	
		Computer name, domain, and	workgroup settings			
		Computer name:	****		🛞 Change settir	ngs
		Full computer name:	XXXXXXXXXXXXXXXXX			
		Computer description:				
		Workgroup:	WORKGROUP			
		Windows activation				
		Windows is not activated.	Read the Microsoft Softwar	re License Terms		- 1
	See also	Product ID: 00000-00000-0	0000-00000		Activate Wind	ows
	Action Center					
	Windows Update					

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

Computer name:	****	The change settings
Full computer name:	XXXXXXXXXXXXXXXXX	
Computer description:		
Workgroup:	WORKGROUP	
Windows activation Windows is not activated	Read the Microsoft Software License Terms	
Product ID: 00000-00000-00000		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 thic PRODUCT KeY: x0000-x00000-x00000-x00000
	Product key Dashes will be added automatically Cancel
	Windows Server 2012 R2

License is activated after the entry of the product key.

Complete license authentication process according to the message.

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

slmgr /ipk <product key>

5-(2) Activate your license by phone.

Open Run, type "slui 4", and then press the <Enter> key."



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

Select your country or region					
Afghanistan 🗸 🗸					
	Next	Cancel			

Acquire the installation ID required for license activation.



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

(e) [	Enter y The automa	OUT CON	Ifirmatic	DN ID	enter.			
·	A	в	с	D	E	F	G	н
						Activate W	indows	Cancel

This completes authentication.

#### (2) Server Core installations

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

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

If license authentication is required, go to the next step. If your license is already authenticated, you can skip the next and the subsequent steps.

2. Change the product key.

#### When using Backup DVD-ROM:

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

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

#### When using Windows Server 2012 R2 DVD-ROM:

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

3. Perform license authentication.

#### When connected to the Internet:

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

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

This completes authentication.

#### When not connected to the Internet:

Use telephone for license authentication.

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

C:\Users\administrator>slmgr -dti

Acquire the installation ID required for license activation.

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

Call Microsoft Licensing Center and tell them your Install ID.

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

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

This completes authentication.

# 4.7 Setup of Windows Server 2012 R2 NIC Teaming (LBFO)

Set up the network adapter teaming feature as shown below.

#### (1) Launching the NIC teaming setup tool

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

The NIC teaming setup tool will launch.

Tips

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

#### (2) Creating a team

Create a team by using the NIC teaming setup tool.

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

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

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

#### **Teaming mode**

Static Teaming	Configures static link aggregation between the NIC and switches.
Switch Independent	Configures teaming on the NIC side without depending on the switch settings.
LACP	Configures dynamic link 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	<ul> <li>Distributes the load based on IP addresses and port numbers in sending.</li> <li>Distributes the load same to "Hyper-V Port" in receiving.</li> </ul>		

#### Standby adapter

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

Setting all adapters to active mode is also possible.

#### Primary team interface

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

#### (3) Notes and restrictions

- NIC teaming on a guest OS is not supported.
- Teaming of virtual NICs on the host OS is not supported in the Hyper-V environment.
- When STP (Spanning Tree Protocol) is enabled on network switch ports to which network adapters of the team are connected, network communications may be disrupted. Disable STP, or configure "PortFast" or "EdgePort" to the ports.
  - \* About setting the network switch of the connection destination, see the manual of the network switch.
- All NICs in the team must be connected to the same subnet.
- Teaming of different speed NICs is not supported.
- Teaming of different vendor's NICs is not supported.

Refer to the following website for the latest information.

http://www.58support.nec.co.jp/global/download/w2012r2/index.html

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

## **4.8** Installing Applications

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

- 1. Sign-in to the Windows with an Administrators privilege.
- 2. Insert the Starter Pack DVD into the optical disk drive.
- 3. Run the start\_up.bat under the root folder on DVD.
- 4. Click Integrated Installation on the menu.

Starter Pack		NEC
	Instruction Manuals	
i	Versions	
F	Integrated Installation	
	Applications	
<b>B</b>	Exit	
		Version S8.10-001.01(001)

5. On the following screen, choose the check boxes corresponding to the applications you want to install, and then click **Install**. The chosen applications are automatically installed.

Pack				
NEC				
to installing the application. Iling the application.				
Rev2.0 Not installed Rev3.5E Not installed Rev3.8 Not installed Rev1.00 (3459) Not installed Rev3.0.5 Not installed Rev2.0.0.0 Not installed				
Applications available for in	stallation are chosen by default.			
<ul> <li>If your system environment does not satisfy the prerequisite for an applic you cannot install it. For details, see the on-screen information and Chap Installing Bundled Software.</li> </ul>				
	Pack  to installing the application.  Ing the application.  Rev2.0 Not installed Rev3.8 Not installed Rev3.8 Not installed Rev3.0.0 (3459) Not installed Rev3.0.0 Not installed Rev2.0.0 Not installed Rev2.0.0 Not installed Install  • Applications available for in • If your system environment you cannot install it. For de			

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

Now installation of applications is complete.

## **4.9** Disabling a virtual install disk

There may be a case that a virtual install disk (a drive named "VID") exists on the OS of Windows.

You can disable a virtual install disk with the steps bellow.

TipsIn the Virtual Install Disk, the drivers used during the installation of Windows OS<br/>are stored.When Virtual Install Disk is installed by the manual option, it is automatically<br/>enabled and automatically install the necessary drivers.

- 1. Press the F10 key during POST to start the EXPRESSBUILDER.
- 2. After restarting from EXPRESSBUILDER, click Perform Maintenance.
- 3. Click BIOS/Platform Configuration.
- 4. Go to BIOS/Platform Configuration (RBSU) System Options USB Options Virtual Install Disk and set to Disabled.
- 5. Click the BIOS/Platform Configuration (RBSU) on the left pane and click Update.
- 6. After restarting, VID will be disabled.

With this, the procedure is completed.

# **5.** Setting up for Maintenance

We recommend setting up the following features for maintenance.

## **5.1** Specifying Memory Dump Settings (Debug Information)

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

Important Do not reset during dumping memory or restarting the server even if the message of virtual memory shortage appears.

#### 5.1.1 For Windows Server 2016

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



2. Click Advanced system settings.



#### 3. In Startup and Recovery, click Settings.

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

4. Type a file name to store the debug information in the **Dump file** text box, and then click **OK**.

Startup and Recovery	Х
System startup Default operating system: Windows Server 2016 Time to display list of operating systems: Time to display recovery options when needed: 30 seconds seconds	
System failure          Write an event to the system log         Automatically restart         Write debugging information         Automatic memory dump	
Dump file: D:\MEMORY.DMP D:\MEMORY.DMP Disable automatic deletion of memory dumps when disk space is low OK Cancel	

Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump for Write debugging information.
- Specify a drive that has a free area of at least "total size of physical memory" + 400 MB (total size of physical memory + 1,100 MB when the total size is 4 TB or more).

## 5. In **Performance**, click **Settings**.

System Propertie	5					×
Computer Name	Hardware	Advanced	Remote			
You must be lo Performance Visual effects	gged on as a	an Administrat	tor to mak emory usa	e most of th age, and virtu	ese changes ual memory Settings	]
─ User Profiles - Desktop settir	ngs related ti	o your sign-in		Ş	S <u>e</u> ttings	
Startup and R	ecovery					
System startu	p, system fai	lure, and deb	ugging inf	omation		
					Se <u>t</u> tings	
			[	Enviro <u>n</u> mer	nt Variables	
		OK		Cancel	Apply	

6. Click the **Advanced** tab on the **Performance Options** window.

Performance Options	×
Visual Effects Advanced Data Execution Prevention	
Select the settings you want to use for the appearance and performance of Windows on this computer.	
Let Windows choose what's best for my computer	
○ Adjust for <u>b</u> est appearance	
○ Adjust for best performance	
○ <u>C</u> ustom:	
<ul> <li>Animate controls and elements inside windows</li> <li>Animate windows when minimizing and maximizing</li> <li>Animations in the taskbar</li> <li>Enable Peek</li> <li>Fade or slide menus into view</li> <li>Fade or slide ToolTips into view</li> <li>Fade out menu items after clicking</li> <li>Save taskbar thumbnail previews</li> <li>Show shadows under mouse pointer</li> <li>Show shadows under windows</li> <li>Show thumbnails instead of icons</li> <li>Show translucent selection rectangle</li> <li>Show window contents while dragging</li> <li>Slide open combo boxes</li> </ul>	

## 7. In Virtual memory, click Change.

Performance (	Options		×
Visual Effects	Advanced	Data Execution Prevention	_
Processor Choose h	scheduling	ate processor resources.	
Adjust fo	r best perfo	rmance of:	
⊖ <u>P</u> rogra	ams	Background <u>s</u> ervices	
Virtual me	emory I file is an are	ea on the hard disk that Windows uses as if it	
were RAN	И.		
Total pag	jing file size	for all drives: 8192 MB	)

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

Virtual Memory		×
<u>A</u> utomatically manag	ge paging file size for all drives	
Drive [Volume Label]	Paging File Size (MB)	
С:	System managed	
Selected drive: Space available:	C: 366520 MB	
<u> <u> C</u>ustom size: <u> Initial size (MB). </u> </u>	]	
Ma <u>x</u> imum size (MB):		
○ System managed size	ze	
○ <u>N</u> o paging file	<u>S</u> et	
Total paging file size for	r all drives	
Minimum allowed:	16 MB	
Recommended:	1889 MB	
Currently allocated:	8192 MB	
	OK Cancel	

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 manag Paging file size for each Drive [Volume Label]	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 ○ <u>N</u> o paging file	<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 size of physical memory" + 400 MB (total size of physical memory + 1,100 MB when the total size is 4 TB or more) or more) is enough to store the dump file. Make sure to specify a sufficient paging file size. Recommended size: "the installed memory size" x1.5 or more
- See "System Partition" in Chapter 1 (3.1 Precautions of Windows Server 2016 Installation) for recommended value.
- 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.

## 5.1.2 For Windows Server 2012 R2

1. On Charms Bar, click Settings.



2. Click Server info.



3. Click Advanced system settings.



4. In Startup and Recovery, click Settings.

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	к. 
Settings	
User Profiles	51
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 INENIOR LOWF OF UNVEL	<example for<="" th=""><th>specifying</th><th>"MEMORY</th><th>.DMP"</th><th>on drive [</th></example>	specifying	"MEMORY	.DMP"	on drive [
------------------------------------------------	-------------------------------------------------------------------------------------------------------	------------	---------	-------	------------

Startup and Recovery X
System startup Default operating system: Windows Server 2012 R2 Time to display list of operating systems: Time to display recovery options when needed: 30 $\stackrel{\frown}{\checkmark}$ seconds Seconds
System failure          Image: System failure         Image: Write an event to the system log         Image: Automatically restart         Image: Write debugging information         Automatic memory dump
Dump file: D: [MEMORY.DMP] I Overwrite any existing file
OK Cancel

Note the following when specifying a dump file:

- We recommend specifying Kernel memory dump for Write debugging information.
- Specify a drive that has a free area of at least "total size of physical memory" + 400 MB.
6. In **Performance**, click **Settings**. The **Performance Options** window will appear.

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

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

Performance Options X
Visual Effects Advanced Lata Execution Prevention
Processor scheduling Choose how to allocate processor resources.
Adjust for best performance of:
<u>P</u> rograms
Virtual memory
A paging file is an area on the hard disk that Windows uses as if it were RAM.
Total paging file size for all drives: 4096 MB
OK Cancel Apply

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

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

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

Virtual Memory 🛛 🗙				
Automatically manage paging file size for all drives Paging file size for each drive Drive [Volume Label] Paging File Size (MB) C: System managed				
Selected drive: C: Space available: 38852 MB				
<u>Custom size:</u> Initial size (MB): 3559 Maximum size (MB): 7118				
<ul> <li>System managed size</li> <li>No paging file</li> </ul>				
Total paging file size for all drives Minimum allowed: 16 MB Recommended: 3559 MB Currently allocated: 4096 MB				
OK Cance	1			

Note the following when specifying a paging file size:

• The paging file is used to collect debug information (dump file). The boot volume must have a paging file of its initial size ("total size of physical memory" + 400 MB or more) is enough to save the dump file.

- Make sure to specify a sufficient paging file size. Recommended size: "total size of physical memory" x 1.5 or more
- See "System Partition" in *Chapter 1 (4.1 Precautions of Windows Server 2012 R2 Installation)* for recommended value.

#### 10. Click OK.

If a message to restart Windows appears, restart the server according to on-screen message.

Specification of the memory dump settings is now complete.

### **5.2** How to Create a User-mode Process Dump File

The user-mode process dump file records debugging information if an application error occurs.

You can get a user-mode process dump file using the following procedures without closing the pop-up window that reported the error:

#### 5.2.1 For Windows Server 2016

1. Right-click an empty area of the taskbar and then click **Task Manager** or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.

2	1		
Recycle	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		
	R 🖸 🤅 🗖	- 「	10:46 AM 12/7/2016

2. Click More details.



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

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

Tips	If the folder is not displayed, open Explorer, select Hidden items on the View tab.
	Image: Point of the state     - □ ×       File     Home     Share       View     - ■ ●
	Image: Preview pane pane pane pane pane pane pane pane
	Danar Lavout Current view Show/hide

Get the user-mode process dump file from the folder shown in step 5.

#### 5.2.2 For Windows Server 2012 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 More details.

😰 🛛 Task Ma	nager	-		x
There are no ru	unning apps			
				_
More <u>d</u> etails		<u> </u>	End ta	isk

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

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



Get the user-mode process dump file from the folder shown in step 5.



# NEC Express5800 Series Express5800/R120h-1M, R120h-2M

# **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.

#### 2. Bundled Software for "PC for Management"

Describes the bundled software to be installed in "PC for Management" that is used to monitor and manage the server.

# **I**. Bundled Software for the Server

This section explains the software bundled in the server. Refer to the documentation that comes with software for details.

## **I.I** RESTful Interface Tool (Windows version)

RESTful Interface Tool is a command line interface tool able to control systems using iLO RESTful API. If you use a device information collection utility, you should install this tool.

Follow the steps below to install.

- 1. After logging on the Windows which you installed in this device, set Starter Pack DVD in the optical disk drive.
- With Explorer, kick the "start\_up.bat" under the root folder of DVD. The menu of Starter Pack starts.
- From the menu, select in the following order: [applications]-[RESTful interface tool. In the default program, it is installed in [C:¥Program Files ¥OEM¥RESTful Interface Tool] folder. (C: is the system drive to which Windows was installed.)

# **1.2** NEC ESMPRO ServerAgentService (for Windows)

NEC ESMPRO ServerAgentService (for Windows) is an application used to monitor the server.

When installing NEC ESMPRO ServerAgentService (for Windows) individually, see "NEC ESMPRO ServerAgentService Installation Guide (Windows)" in Starter Pack.

# **1.3** Smart Storage Administrator

Smart Storage Administrator is an application used to manage and monitor the following RAID controllers:

- Onboard RAID Controller
- N8103-189 RAID Controller (0GB, RAID 0/1)
- N8103-190 RAID Controller (2GB, RAID 0/1/5/6)
- N8103-191 RAID Controller (4GB, RAID 0/1/5/6)
- N8103-192 RAID Controller (0GB, RAID 0/1)
- N8103-193 RAID Controller (2GB, RAID 0/1/5/6)
- N8103-194 RAID Controller (4GB, RAID 0/1/5/6)
- N8103-195 RAID Controller (0GB, RAID 0/1)
- N8103-201 RAID Controller (2GB, RAID 0/1/5/6)
- N8103-196 RAID Controller (4GB, RAID 0/1/5/6)

For details about Smart Storage Administrator, see Smart Storage Administrator User's Guide on the following website.

NEC corporate site: <u>http://www.nec.com/express/</u> [Products & Solutions]-[Servers]-[NEC Express5800 Server Series]-[Download]

If the system requirements for Smart Storage Administrator described in *Smart Storage Administrator User's Guide* differ from *User's Guide* of the server, follow *User's Guide* of the server.

#### 1.3.1 Setup of Smart Storage Administrator

#### (1) Setup using Starter Pack

To install Smart Storage Administrator from Starter Pack, run the menu, and then click "Integrated Installation" or "Applications". You can install Smart Storage Administrator by installing Standard Program Package.

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

#### (2) Setup using the program

See the Smart Storage Administrator User's Guide if installing Smart Storage Administrator downloaded from the web.

#### 1.3.2 RAID Report Service

This service monitors the RAID status and notifies failures.

See the *Smart Storage Administrator User's Guide* for information on the RAID Report Service, including installation, operation, and function details.

### **1.4** Express Report Service / Express Report Service (HTTPS)

To avoid system failures or to maintain the server quickly, Express Report Service / Express Report Service (HTTPS) informs the support center of the failure information, preventive maintenance information by E-Mail, modem, or HTTPS. If you want to use this service, contact your sales representative and install NEC ESMPRO ServerAgentService before using this service.

For details about Express Report Service / Express Report Service (HTTPS), see "Express Report Service / Express Report Service (HTTPS) Installation Guide (Windows)" in Starter Pack.

## **1.5** 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.

#### 1.5.1 Installation

Follow the steps below to install this utility.

1. Log on to Windows as an Administrator, and then insert Starter Pack DVD into the optical disk drive.

 Run "start\_up.bat" located under the DVD route folder using Explorer. The Starter Pack menu will appear.

3. Click **Applications** from the menu and then click **Product Info Collection Utility**.

The installation will start. Follow the instructions in the dialog boxes until installation is complete. This utility is usually installed to the C:\ezclct folder.

- Tips
- Log on using an account with an administrator right.
- The installation drive requires a free space of at least 2.5 GB.
- To collect device information with this tool, RESTful interface tool needs to be installed. If it is not installed, some logs required for the maintenance may not be gathered.

#### 1.5.2 Uninstallation

Uninstall the utility depending on the Windows installation type:

• Full installation (Server with GUI):

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

• Server Core installation:

Run the following command at the command prompt:

Wmic product where name="Product Info Collection Utility" call uninstall

# 2. Bundled Software for "PC for Management"

This section describes the bundled software required to configure "PC for Management" used to manage the server system via network.

# **2.1** NEC ESMPRO Manager

NEC ESMPRO Manager can remotely control and monitor the hardware of the server. To use these features, install the bundled software for the server such as NEC ESMPRO ServerAgentService.

NEC ESMPRO Manager installer and manual can be downloaded from the website below. http://www.nec.com/en/global/prod/express/management/smsa/index.html

For details about NEC ESMPRO Manager, see NEC ESMPRO Manager Installation Guide.

### **2.2** Express Report Service (MG)

To avoid system failures or to maintain the server quickly, Express Report Service (MG) informs the support center of the failure information or preventive maintenance information by E-Mail, modem, or HTTPS.

To use this feature, NEC ESMPRO ServerAgentService is required because Express Report Service usually works with it.

If NEC ESMPRO ServerAgentService cannot be installed to the server, you can install Express Report Service (MG) into NEC ESMPRO Manager instead of it.

For details about Express Report Service (MG), see "Express Report Service (MG) Installation Guide (Windows)".

# Glossary

Terms	Description		
AHS	Active Health System (AHS) monitors the status/configuration of the server, and records it to a log file if any changes occur. AHS log is used for maintenance to investigate the failure.		
AMP	Advanced Memory Protection (AMP) is a technology for realizing a fault tolerance of th server by memory redundancy (such as mirroring).		
AMS	Agentless Management Service (AMS) is an OS service for sending information (such as OS events) that iLO cannot collect directly. iLO records the information recieved by AMS and send it to Agentless Management.		
EXPRESSBUILDER	Software for setting up the server. EXPRESSBUILDER can be started by pressing <f10> key during POST.</f10>		
Express Report Service	Software that can report the server failure to the contact center by E-mail or modem. This software is installed with NEC ESMPRO ServerAgentService to the server.		
Express Report Service (HTTPS)	Software that can report the server failure to the contact center by HTTPS. This software is installed with NEC ESMPRO ServerAgentService to the server.		
Hexalobular	A type of screw head characterized by a 6-point star-shaped pattern. This is often called as "Torx" (the Torx is a trademark). Head sizes are described from T1 to T100. This is sometimes abbreviated as 6lobe.		
iLO	A built-in controller that supports the IPMI version 2.0 protocol. The controller is called as iLO5 because this server adopts a generation 5 version controller.		
NEC ESMPRO ServerAgentService	Software for monitoring the server. This works with NEC ESMPRO Manager. You can choose Service Mode or Non-Service Mode when installing this software. Service Mode resides as the OS service and Non-Service Mode does not use the OS service to reduce memory, CPU power, and other OS resources.		
NEC ESMPRO Manager	Software for managing a number of servers on network.		
PC for Management	A computer for managing the server on network. A general Windows/Linux computer can be used as "PC for Management".		
Product Info Collection Utility	Software for collecting several hardware/software statuses and event logs. You can easily collect the data for the server maintenance by using this software.		
RAID Report Service	This service monitors the RAID status and notifies failures.		
RBSU	ROM-Based Setup Utility (RBSU) is a built-in utility that can configure connected devices and BIOS settings. RBSU is called from System Utilities.		
RESTful Interface Tool	A tool that supports API based on Representational State Transfer (REST) architecture. You can send maintenance commands in JSON format to iLO by HTTP protocol after installing this tool.		
SID	System Insight Display (SID) is an optional product that can indicate the statuses of each device on motherboard.		
SPP	Standard Program Package (SPP) is a software package that includes BIOS, FW, driver, and other basic software. SPP is included in Starter Pack.		
SSA	Smart Storage Administrator (SSA) is a utility that can configure RAID arrays. SSA is provided for Windows/Linux and can also start from F10 key function.		
Starter Pack	A software package that includes SPP, instruction manual, application, and other softwar for the server. This must be installed before using OS on the server. Starter Pack is provided as an optional product and ISO data on our website.		
System Maintenance Switch	A DIP switch on motherboard. This switch can enable/disable initialization, password, iLO settings, and other functions of maintenance.		
System Utilities	System Utilities is a built-in utility that provides system information, calling RBSU, collecting system log, and other system utilities. You can start System Utilities by F9 key during POST.		
TPM Kit	An optional product of Trusted Platform Module for the server.		

# **Revision Record**

Revision (Document Number)	Date Issued	Description
First edition	April 2018	Newly created
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#### NEC Express Server

Express5800/R120h-1M, R120h-2M Installation Guide (Windows)

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